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THE

AMERICAN JOURNAL

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OF THE

MEDICAL SCIENCES.

STORAGE

VOL. XV.

PHILADELPHIA:
CAREY, LEA & BLANCHARD.
1834.

TO READERS AND CORRESPONDENTS.

Communications have been received from Drs. Waddell, Steel, Heustis, Pennock, Horner and Young.

We have not yet seen Dr. Hayward's Physiology. The copy sent by the author has not reached us.

The following works have been received:—

Researches on the Pathology and Treatment of some of the most important Diseases of Women. By Robert Lee, M. D., F. R. S., Physician Accoucheur to the British Lying-in Hospital, &c. &c. (From the author.*)

Leçons de Clinique Médicale, faites a l'Hôtel-Dieu de Paris. Par Le Professeur A. F. Chomel, recueillies et publiées sous ses yeux. Par J. L. Genest, D. M. P. Ancien chef de Clinique Médicale de l'Hôtel-Dieu de Paris, &c. (Fièvre Typhoide.) Paris, Germer Baillière, 1834. (From the publishers.)

An Inquiry into the Principles and Practice of Medicine, founded on original Physiological Investigations. By G. Calvert Holland, M. D. Physician to the Sheffield General Infirmary. Vol. I. London, 1834. (From the author.)

General Observations respecting Cholera Morbus. By J. N. Casanova, C. M. D. &c. &c. Philadelphia, 1834. (From the author.)

An Introduction to the Study of Human Anatomy. By James Paxton, M. R. C. S. &c. Vol. II. First American Edition, with Additions. By Winslow Lewis, Jr. M. D. Demonstrator of Anatomy to the Medical Department of Harvard University. Boston, 1834. Allen & Ticknor. (From the publishers.)

An Inquiry into the Claims of Dr. William Harvey to the Discovery of the Circulation of the Blood; with a more Equitable Retrospect of that Event. To which is Added an Introductory Lecture, Delivered on the 3d of November, 1829, in Vindication of Hippocrates from Sundry Charges of Ignorance preferred against him by the late Professor Rush. By John Redman Coxe, M. D. Professor of Materia Medica and Pharmacy in the University of Pennsylvania, &c. &c. Philadelphia, 1834. (From the author.)

A Compendium of Operative Surgery intended for the Use of Students, and Containing Descriptions of all Surgical Operations. Illustrated with Engravings. By Thomas L. Ogier, M. D. Lecturer on Anatomy and Operative Surgery, and Thomas M. Logan, M. D. Lecturer on Materia Medica and Therapeutics. No. 1. Charleston, 1834. (From the authors.)

Documents Relative to the Massachusetts State Prison. (From J. Porter, Esq.)

Case of Notencephalc, with Engravings. By Charles T. Hildreth, M. D. Boston, 1834. (From the author.)

Promotion of Health in Literary Institutions. New Haven, 1833. (From Henry Bronson, M. D.)

Archives Générales de Médecine, for January, February and March, 1834. (In exchange.)

Annales de la Médecine Physiologique, for February, 1834. (In exchange.)

* This work, sent to us upwards of a year since, only reached us just as this sheet was going to press. We shall notice it in our next.

Revue Médicale Française et étrangère, Journal des Progres de la Medecine Hippocratique, for January, February, March and April, 1834. (In exchange.)

Journal de Chimie Médicale, for March and April, 1834. (In exchange.)

Journal des Connissances Medico-Chirurgicale, January, February, March, April and May, 1834. (In exchange.)

Journal Hebdomadaire des Progres des Sciences et Institutions Médicales. Vol. I. and Vol. II. No. XIV to XX. (In exchange.)

Journal de Pharmacie et des Sciences Accessoires, for December, 1833, and January, February, March and April, 1834. (In exchange.)

Gazette Médicale de Paris. March, April and May, 1834. (In exchange.)

La Lancette Française, Gazette des Hospitaux, Civils et Militaires. March, April and May, 1834. (In exchange.)

The Edinburgh Medical and Surgical Journal, for July, 1833. (In exchange.)

The Medico-Chirurgical Review, for July, 1833. (In exchange.)

The London Medical and Physical Journal, for June and July, 1833. (In exchange.)

The London Medical and Surgical Journal, for June and July, 1833. (In exchange.)

London Medical Gazette, for July, August and September, 1834. (In exchange.)

Bibliothek for Læger, No. 4, for 1832; Nos. 1, 2, 3, and 4, for 1833, and No. 1, for 1834. (In exchange.)

The Transylvania Journal of Medicine and the Associate Sciences. Vol. VII. Nos. 2 and 3. (In exchange.)

The Boston Medical and Surgical Journal, Vol. X. No. 25. (In exchange.)

The United States Medical and Surgical Journal, Vol. I. No. 1. (In exchange.)

The Medical Magazine, Vol. III. Nos. 1 to 6, 1834. (In exchange.)

The Western Journal of the Medical and Physical Sciences, for April, May and June, 1834. (In exchange.)

The Western Medical Gazette, for July, August and September, 1834. (In exchange.)

The North American Archives of Medical and Surgical Sciences, for October, 1834. (In exchange.)

For the gratifications of our contributors, we present references to the works, in which their communications are noticed.

Professor Mott will find his case of Aneurism of the Right Subclavian noticed in the Gazette Médicale de Paris, for February 22d, 1834, Revue Médicale, for March, 1834, Journal de Connais. Med. Chirurg. for May, 1834; and his Case of Extirpation of Parotid Gland, in the Bibliothek for Læger, No. 2, 1833.

Professor Gibson will find his Case of Tumour of the Neck noticed in La Lancette Française for April 13th, 1834.

Professor Geddings's Case of Fungous Hæmatodes of the Thigh, is noticed in the Journal Universel et Hebdomadaire for November, 1833.

Professor Horner's Experiments on the Vascular Connexion of the Mother and Fœtus, are noticed in the Journ. des Connaiss., Med. Chirurg. for November, 1833, Gaz. Méd. de Paris, for February 22d, 1834, Archives Générales for February, 1834; and his Case of Hepatic Abscess is copied in the London Med. and Surg. Journ. for August, 1834.

Dr. Jackson's Remarks on the Use of Cold Water in Scarlatina, are noticed in the Rev. Méd. for September, 1833, London Med. and Surg. Journ. for July, 1833; and his Observations on the Efficacy of Belladonna in Pertussis, are noticed in the Western Med. Gaz. for September, 1834.

Dr. Mitchell's Paper on Rheumatism, is noticed in the Gaz. Méd. for February 22d, 1834, Rev. Méd. for January, 1834, and in the United States Med. and Surg. Journ. for August 1st, 1834.

Dr. Harris's Cases of Neuralgia Treated by Galvanism, are copied into the Transylvania Journal for October, 1834.

Dr. Robinson's Case of Monstrosity, is noticed in the Archiv. Gén. for January, 1834, Journ. Univ. et Hebdom. November, 1833, and London Med. and Surg. Journ. June, 1833.

Dr. Williams's Paper on the Medicinal Uses of the Viola Ovata, is noticed in the Philadelphia Journal of Pharm. for April, 1834; his Remarks on the Use of the Conium Maculatum in Affections of the Mammæ, are noticed in the Bibliothek for Læger, No. 4, 1833, and in Behrend's Repertor. for 1833; and his Case of Stricture of Vagina in the London Med. and Surg. Journ. for July, 1834.

Dr. Bond's Account of the Post Mortem Examination of a Female who died shortly after Coitus, is noticed in the Gaz. Méd. de Paris for April 19th, 1834, Journ. Hebdom. May 10th, 1834, Medical Magazine for March, 1834, and La Lancette Française for April 12th, 1834.

Dr. Roger's Case of Ligature of Common Carotid for Anastomosing Aneurism, is noticed in the London Med. Review for January, 1834; and his Case of Ossification of the Muscular Tissue in the Gaz. Méd. for April 19th, 1834.

Dr. Wright's Contributions to Cardiac Pathology, are noticed in the Trans. Médicales for November, 1833, and in the Rev. Méd. for January, 1834.

Dr. Hulse's Case of Ununited Fracture, is noticed in the Gaz. Méd. de Paris for April 19th, 1834, and in the Dublin Journal, for September, 1834.

Dr. Heustis's Case of Prolapsus Recti treated by Excision is copied in the London Medical and Surgical Journal, June, 1833.

Ticknor's Anomalous Case is noticed in the Boston Medical and Surgical Journal for October 15th, 1834, and the Lond. Med. and Surg. Journ. for August, 1834.

Tolefree's Observations on the Circular and Flap Operations are noticed in the Med. Magazine for March, 1834, and in the Gaz. Médicale for April 19th, 1834.

Channing's paper on the Iodo-hydrargyrate of Potassium is noticed in the Phil. Journ. of Pharm. for April, 1834, and in the Gaz. Méd. de Paris for April 19th, 1834.

Dr. Griscom's Memoir on the Apocynum Canabinum is noticed in the Archives Gén. for October, 1833, Journ. de Chim. Méd. for February, 1834, and in the Journ. de Pharm. for February, 1834.

Dr. Fahnestock's Case of Partial Congestion of the Cerebrum is noticed in the Rev. Méd. for September, 1833, and in the Journ. Univ. et Hebdom. for November, 1833.

Dr. Wahn's Case of Vagitus Uterinus is noticed in the Rev. Méd. for September, 1833.

Dr. Barrington's paper on Yellow Fever is noticed in the Gaz. Méd. for February 22d, 1834.

Dr. Hodge's paper on Puerperal Fever is noticed in the Gaz. Méd. for February 22d, 1834.

Dr. Zollickoffer's paper on the Apocynum Canabinum is noticed in the Gaz. Méd. for February 22d, 1834.

Dr. Harden's Case of Shoulder and Arm Presentation is noticed in the Gaz. Médicale for February 22d, 1834, in the Rev. Méd. for January, 1834, and in the Journ. de Connaiss. Méd. Chirurg. for May, 1834.

Dr. Atlee's paper on Hydrocyanic Acid in Pertussis is noticed in La Lancette Française for October 10th, 1833.

Dr. Gillespie's Case of Luxation of the Astragalus is noticed in the Journ. Univ. et Hebdom. for November, 1833, and his Cases of Neuralgia are copied into the London Med. Gaz. for August, 1834.

Dr. Trowbridge's Case of Calcareous Incrustation of Bladder is noticed in the Journ. Univ. et Hebdom. for January 25th, 1834.

Dr. Lindsley's Observations on Amenorrhœa are noticed in the Gaz. Médicale for April 19th, 1834.

Dr. Wallace's note on a New Membrane of the Eye is noticed in the Gaz. Méd. de Paris for April 19th, 1834.

Dr. Zabriskie's Case of Œsophagitis is noticed in the Gaz. Médicale for April 19th, 1834, and his Case of Amnesia in the Dublin Journal for September, 1834.

Dr. Charlton's Case of Incongruous Twining, is copied in the Medical Gazette for August, 1834.

Dr. Young's paper on Cimicifuga racemosa in Chorea, is noticed in the Bibliothek for Læger, No. 3, 1834, and his Case showing the Effects of Lightning, and his Case of Poisoning with Laudanum, are copied in the Medical Gazette for August, 1834.

Dr. Picton on the Influence of Light in preventing Pitting in Small-pox, is noticed in the Bibliothek for Læger, No. 3, 1834.

Dr. Lebeau's Case of Premature Puberty, is noticed in Froriep's Notizen, No. 3, 1834.

Dr. Worrell's Case of Adhesion of Placenta to Fundus of Uterus, is noticed in the Dublin Journal for September, 1834.

Dr. Harris's Cases of Yellow Fever are noticed in the Transylvania Journal for October, 1834.

Dr. Huston's Case of Hypertrophy of Mammæ is copied into the Transylvania Journal for October, 1834.

Authors of new medical books, desirous of having them reviewed or noticed in this Journal at the earliest opportunity, are invited to transmit to the *Editor* a copy as soon after publication as convenient, when they will receive prompt attention. Under ordinary circumstances, very considerable delay is caused by the circuitous routes through which they are received.

Papers intended for publication, should be sent, *free of expense*, as early after the appearance of the Journal as possible, in order to be in time for the ensuing number. Such communications should be addressed to "Carey, Lea & Blanchard, Philadelphia, for the Editor of the American Journal of the Medical Sciences."

All letters on the *business* of the Journal to be addressed exclusively to the publishers.

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XV. The Cyclopedia of Practical Medicine and Surgery; a Digest of Medical Literature. Edited by Isaac Hays, M. D., &c. Parts III., IV. and V 157

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XVII. Jurisprudence de la Médecine, de la Chirurgie, et de la Pharmacie, en France; comprenant la Médecine Légale, la Police Médicale, la Responsabilité des Médecins, Chirurgiens, Pharmaciéns, &c.; l'Exposé et la Discussion des Lois, Ordonnances, Reglemens et Instructions concernant l'art de guérir; appuyé des Jugemens des Cours et des Tribunaux. Par Adolphe Trebuchet, Avocat, Chef du Bureau de la Police Médicale et

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OF THE

MEDICAL SCIENCES.

ART. I. *Account of Six Cases of Stone in the Bladder, in which the Operation of Lithotripsy* was Successfully performed.* By J. RANDOLPH, M. D. one of the Surgeons to the Philadelphia Alms-house Infirmary.

A DEGREE of surprise will probably be excited in the minds of some who read this paper, at my having so long delayed giving an account of the following cases, but I have been actuated by two motives in withholding their publication; in the first place, I wished that a sufficient length of time should elapse to test fairly and fully the results of the operations, and in the second place, the several cases presented themselves so simultaneously, that I was unwilling

* Baron Heurteloup, who has obtained the most triumphant success in the destruction of calculi in the bladder by means of percussion, effected through the agency of an instrument invented by himself, which he calls "Le Percuteur courbe a Marteau," has adopted, and I think with great propriety, the term lithotripsy in preference to that of lithotrity. He says, "*Lithotripsie* veut dire pulvérisation de la pierre, de λιθος pierre et de τριβω, je pulvérise, τριψις, pulvérisation; il indique conséquemment le but général de l'opération, sans indication d'aucun procédé. Il n'en est pas de même du mot *lithotritie*, qui n'a jamais désigné que le procédé détruire la pierre par des perforations répétées; en effet, il est dérive de λιθος pierre et de τιτρω ou τειρω, je perce. On sent bien que l'on ne peut pas appeler *lithotritie* l'action d'un instrument qui écrase les pierres ou celle qui les brise par la percussion. En un mot, la *lithotripsie* est le nom donné à la méthode prise en général, qui consiste à pulvériser les pierres, et le mot *lithotritie* n'indique que le procédé de perforer successivement les pierres pour les détruire. *Lithotripsie* est le genre, *lithotritie* est l'espéce."

to give an account of one until the whole were completed. Had I, in truth, consulted merely my own feelings, it is probable that I should not even, at this period, have consented to the publication of this brief outline of the cases: to this step I confess I have been principally induced by the advice of my valued friend, the editor of this Journal, who urged that the alleged success of the operations might be called in question unless an authentic report of them were made to the profession. I am well aware, indeed, that it has been stated, both publicly and privately, much to the opprobrium of American surgeons, that the operation of lithotripsy has never been successfully performed in this country; facts, however, are stubborn things, and the following will, I trust, furnish a sufficient refutation to all such rash assertions.

Case I. The first patient on whom I performed the operation of lithotrity was Augustien, a French cook, aged fifty years, placed under my care by my friend, Dr. R. La Roche. Augustien had been afflicted with the symptoms of stone for about three years; had suffered at times very severely, and was seldom able to retain his urine for a longer period than from ten to fifteen minutes.

Having properly prepared this patient for the operation, by the introduction of straight sounds into the bladder, not only for the purpose of accustoming the parts to the presence of instruments, but also to ascertain the exact situation of the stone, on the 22d of September, 1832, I distended his bladder with barley water, and introduced into it the cannula containing the three-branched forceps and drill of M. Civiale, (called lithotriteur,) in the presence of Drs. Horner and La Roche, and Messrs. Pile and Cooke.

The instrument passed readily into the bladder, and immediately came in contact with the stone; I now protruded the blades of the forceps, and succeeded in catching the stone without the slightest difficulty; I next put the drill into motion by means of the bow, and perforated the stone in a very short time; its diameter appeared to be about two inches. It was now deemed proper to desist for the present; I accordingly liberated the stone, closed the blades of the forceps, and withdrew the instrument.

The patient did not suffer severe pain from this operation, which occupied fifteen minutes.

Upon withdrawing the instrument, a considerable portion of calculous matter came away with it; this was quite soft, and was found subsequently to be composed of the phosphate of lime; the same sandy matter also escaped after the operation along with the fluid and urine which he voided.

On the 29th of September I again introduced the instrument in the presence of Drs. Physick, Horner, and La Roche, and Messrs. Pile and Cooke. Having, as on the former occasion, succeeded in catching the stone without difficulty, I drilled a hole through it, which I soon perceived to communicate with the aperture made at the first operation.

My next object was to turn the stone, which was accomplished with some slight difficulty, and another perforation was made through it. I now removed the instrument from the bladder, but experienced considerable embarrassment in doing this in consequence of the fine, soft sand mixed with the mucus forming a kind of mortar, which insinuated itself between the blades of the forceps and the drill, and adhered to them in such a manner as to prevent the blades from closing as completely as they ought to have done.

Soon after the operation the patient took a warm bath, and voided the fluid contained in his bladder, together with a considerable quantity of calculous matter.

From this period fragments of the stone continued to be voided for several days, and some of these were of considerable size, showing evidently that the stone was very much broken.

On the 13th of October I repeated the operation in the presence of Drs. Physick, Horner, La Roche, and W. Rush, and Messrs. Pile and Cooke. On this occasion I used an instrument one size smaller than the one before employed, immediately caught the stone and bored a hole quite through it; I then attempted to change the position of the stone without letting it go from the forceps; this however I could not effect: I now expanded the blades of the forceps and liberated the stone, then placed the patient on his left side and caught the stone and drilled a hole through it which communicated with other apertures and seemed to break it up considerably. I now again liberated the stone and placed the patient on his right side, then caught it and made another perforation through it with the same effect.

It was now deemed proper to desist, the time occupied by this operation being about twenty minutes. Soon after removing the instrument, the patient voided the fluid which had been injected into his bladder, and with it a good deal of calculous matter. In the evening he had some fever, which however passed off in the night by perspiration. The fragments of stone voided after this operation exceeded much in quantity that passed off after the two first operations.

On the 16th he had a slight chill, which was followed by some fever and pain in the back; these symptoms yielded to two bleedings and a cathartic.

The fourth operation was performed on the 31st of October, in the presence of Drs. Horner and Rush, and Messrs. Pile and Cooke. I caught the stone very readily and made several perforations through it. He suffered very little from this operation; the instrument was introduced and withdrawn without causing any irritation; soon after it he took a warm bath and voided a considerable portion of calculous matter.

Being fully satisfied from the quantity of stone collected after these several operations, and from its measurement by the forceps, that the remaining fragment was of small size, I endeavoured very carefully at this last operation to crush the fragment into pieces by means of the forceps; this attempt however did not prove effectual.

I now determined to make trial of the instrument invented by Mr. Jacobson, of Copenhagen, for the purpose of breaking up a stone in the bladder, and accordingly on the 7th of November I introduced this instrument into the bladder in the presence of Dr. Horner and Mr. Cooke, and succeeded in a few minutes in catching the stone and breaking it into pieces. Upon withdrawing this instrument, which subsequent experience has induced me to consider one of the most valuable and important ever invented for surgical purposes, I had the satisfaction to find that its blades were completely filled with the calculous matter. The fragments continued to be discharged for several days after this operation; one piece of rather large size lodged in the urethra for near thirty-six hours, it did not however occasion sufficient irritation to induce me to make any great effort either to push it back into the bladder, or to break it in the urethra; it was finally discharged, and the patient then expressed himself free from all pain of the stone.

From this period the patient rested well at night, and was able to retain his urine for five or six hours; this fluid also which previously to the operations was exceedingly turbid and mixed with a considerable quantity of mucus, now became perfectly transparent and clear. Having subjected the bladder to a careful examination, and having sounded it repeatedly without detecting any particle of stone remaining, this case was reported cured on the 26th of November.

It is proper I should state that four or five months subsequently to this period, Augustien again called upon me labouring under some of the symptoms of stone; I lost no time in introducing a sound into his bladder, and ascertained that there was a fragment within it; I introduced Jacobson's instrument twice, caught the piece immediately, and crushed it completely.

These operations did not occupy more than a minute, and were

not productive of any irritation; he passed out the fragments in a few days, since when he has enjoyed good health, and attends to his ordinary concerns.

Case II. Early in November, 1832, I was requested by Dr. Physick to take charge of the case of Mrs. F. D. of Virginia, aged about twenty-seven years, wife of Col. D. Mrs. D. had been afflicted with the ordinary symptoms of stone for fourteen years. Soon after she arrived in this city Dr. Physick sounded her, and ascertained that there was a calculus of large size in the bladder.

In consequence of her protracted and severe sufferings, Mrs. D. was at this period much emaciated and exceedingly nervous. So great, indeed, was the prostration of her system, that upon the day appointed for my first essay, Dr. Physick considered her to be too feeble to bear any attempt to be made to break the stone.

Having by proper restoratives imparted more tone to her system, I commenced the operation on the 16th of November, in the presence of Dr. Physick.

The irritability of the bladder in this instance was so great, that the patient could not bear any fluid to be injected into it, and accordingly, without resorting to this expedient, I introduced the three-branched forceps of M. Civiale, and having expanded its blades, after considerable difficulty, I could only succeed in catching hold of a projecting portion of the stone; I next put the drill into motion, and bored a hole, which only extended partially through the stone. Upon withdrawing the instrument, we ascertained that the stone was very soft, and I was now convinced that it was too large to be embraced by the forceps. Being provided with Jacobson's instrument, I next introduced this into the bladder, and succeeded in breaking off, from the sides of the stone, a considerable portion of calculous matter. This instrument was introduced and withdrawn without producing any pain; soon after the operation, which occupied only a few minutes, Mrs. D. voided large quantities of the stone, and continued to do so for five or six days; the amount collected seemed indeed sufficient of itself to constitute a calculus of tolerable size. From this period she recovered her health and spirits to a very great degree, and there was also a considerable abatement of the painful symptoms of her disorder.

On the 26th of November I again introduced the instrument of Civiale in the presence of Dr. Physick. In a very short time I caught the stone and drilled a hole completely through it; I then expanded the blades of the forceps slightly, loosened the stone, changed its position, and made another perforation through it. I next endeavoured

to break up the stone as much as possible, by pulling forcibly at the blades with the view of compressing them. It being now thought proper to desist for the present, I let the stone go and attempted to take out the instrument; here however I met with the same difficulty I experienced in Augustien's case, on account of the soft stone adhering like mortar to the sides of the drill and forceps, and preventing the blades from closing entirely. This part of the operation caused considerable pain; when the instrument came out it brought with it a large quantity of sandy matter. Soon after the operation, Mrs. D. took a warm bath and passed a good deal of stone; she rested well at night, and the next day felt freer from pain than she had been for a long time. Mrs. D. continued to void calculous matter for five or six days after this operation, during which time her general health also improved considerably.

On the 15th of December I again introduced the lithotripteur, and caught the stone, which proved to be much lessened in size. I made one perforation through it and then let it go, withdrew this instrument and introduced Jacobson's, and broke the calculus up, as I thought, completely. Mrs. D. did not suffer the least pain either during or after this operation; she voided the calculous matter as on the former occasions.

Upon examining the bladder, however, four or five days subsequently to this operation, I ascertained that there was a portion of stone remaining too large to pass through the urethra.

On the 25th of December I introduced Jacobson's instrument, and caught the stone instantly and broke it, and caught it again and broke it; after this Mrs. D. passed out several large fragments which caused a good deal of straining, and on the 5th day a hæmorrhage occurred. The bleeding was stopped by keeping her perfectly still in a recumbent posture, making cool applications to the vulva, and drawing off the urine by means of a catheter, besides which she drank cool alum whey. From this period Mrs. D.'s sufferings were almost entirely relieved; it was found, however, upon examination, that a fragment was still in the bladder; for the purpose of destroying which I was obliged to make use of Jacobson's instrument twice in the month of January, 1833.

It should be stated, however, that the patient was exceedingly delicate and nervous, and that she would not submit to a repetition of the operations until a long interval had elapsed between them, and then for not more than two or three minutes at a time; in this way her cure was very considerably procrastinated.

During the month of February Mrs. D.'s health improved very ra-

pidly, and the symptoms of stone were so completely relieved that she was unwilling to believe she was not perfectly cured; I ascertained, however, that there was still a fragment in the bladder, though of so small a size that it required some time to find it with the sound. The patient would not submit to any operation for the removal of this fragment until the 27th of this month, when I introduced Jacobson's instrument, and caught the fragment, and drew it out almost entire in the blades of the instrument; but a small portion broke off, which was subsequently voided during the night. From this date the symptoms of stone entirely ceased; I examined the bladder very carefully without being able to discover the least particle of stone: Dr. Physick also made a very minute examination, and declared himself quite satisfied with the cure.

Early in March Mrs. D. returned to Virginia with her family.

About ten months subsequently to this period Mrs. D. again came to this city labouring under pain and difficulty in voiding urine; considerable apprehension was expressed by several of my medical friends lest there should be a return of the disorder. Upon sounding the bladder, however, very carefully, I had the gratification to find that it was quite sound and entirely free from stone; the examination of the bladder did not cause the slightest pain, at the same time the nature of her complaint was rendered very apparent; she was affected with a prolapsus uteri to a great extent.

For the management of this latter affection she was referred to my excellent friend Dr. Dewees, by whose judicious treatment she was soon so much relieved as to be enabled to return to her home.

Case III. Early in March, 1833, I was applied to by Mrs. M. H. aged twenty-eight years, who had been afflicted with the symptoms of stone for about three years.

Having carefully sounded this patient, and ascertained that there was a stone in the bladder, of not a very large size, on the 16th of March I introduced the lithotripteur of M. Civiale, and having expanded the blades of the forceps I made the most careful efforts to catch the stone. Notwithstanding however the greatest care possible was used during this essay, which occupied fifteen minutes, I could not succeed in seizing the calculus, and accordingly was obliged to desist.

The patient declared that she did not suffer the slightest inconvenience from these attempts.

Having failed in catching the stone with the three-branched forceps, on the 20th of March I introduced the brise-pierre articulé of Mr. Jacobson, and after a few minutes I caught the stone and broke off

several fragments which were discharged from the bladder in the course of the next two days.

On the 25th of March I again introduced this instrument into the bladder, and caught the stone and broke it into several fragments, some of these were passed out with the urine, and others I took out from the urethra by means of my common pocket forceps.

On the 28th inst. I again caught the stone and broke it, after which fragments were discharged during the days of the 29th and 30th, and on the 31st of March the whole remaining portion came away. From that moment the symptoms of stone entirely ceased, and the patient declared she was perfectly cured. I was quite satisfied of this being the fact, inasmuch as the fragments collected, when put together, formed an almost entire stone of oval shape, its longest diameter being one inch. I now however sounded the bladder very carefully, but could not detect any stone; a few days subsequently Dr. Physick also had the kindness to sound her, and declared his conviction that the calculus was all removed.

It may be remarked that the treatment of this case occupied but two weeks, during which time the patient was not confined to her bed for a single hour, but continued to attend to the affairs of her house as usual.

Case IV. The Rev. Dr. Joseph Caldwell, of Raleigh, N. C. aged about sixty years, arrived in this city in the latter end of April, 1833, labouring under the symptoms of stone in the bladder.

Dr. C. had been afflicted with these symptoms for six years, and the pain attending the voiding of his urine was so great that he had been in the habit for a long time of drawing it off by means of a catheter.

Having prepared this patient for the operation of lithotrity in the usual manner, on the 19th of May I introduced the lithotriteur into his bladder, without the least difficulty, in the presence of Drs. Physick and Horner and Messrs. Kennedy, Cooke and Henn. In a few moments I succeeded in catching the stone, and drilled a hole through it; I then expanded the forceps and let the stone escape, and caught it again and made another perforation through it.

The instrument was now withdrawn, and with it came away a quantity of sandy matter. The result of this operation proved that the calculus was a soft one, and not very large, its diameter being by measurement rather more than one inch. Dr. C. did not experience any inconvenience from this operation, which occupied twenty minutes; the next day he was about as well as usual.

On the 26th of May I again introduced the lithotriteur into his bladder; on this occasion I caught the stone three several times, and made perforations through it without any difficulty. The patient did

not suffer any irritation or pain from this operation, he continued to be up and about his room as usual, and for several days voided along with his urine fine calculous matter.

On the second of June I repeated the operation; on this occasion I could not succeed in drilling more than two holes through the stone. The instrument did not work as free in the bladder as it had done on the two former occasions. This operation however did not cause the patient any inconvenience, he was not confined at all to his bed, it was not followed by any fever, and he passed his urine more freely and also the sandy matter.

On the sixteenth of June I again performed the operation; on this occasion I made two perforations through the stone, and by pulling the forceps forcibly, I succeeded in partially breaking it. No inconvenience followed this operation, and he passed out a larger quantity of fragments.

On the 23d of June I introduced the brise-pierre articulé of Mr. Jacobson into the bladder, soon caught the stone, and broke it into pieces without any difficulty. The patient did not suffer any pain from this operation; on the contrary, in a few days he passed out the fragments, and experienced entire relief from the painful symptoms which he had formerly endured. Having examined the bladder several times very carefully after this operation, and not being able to detect any stone in it, I requested Dr. Physick to make an examination, which he did on the 4th of July, and after sounding the bladder carefully, he expressed his belief that the patient was cured.

On the 16th of July Dr. Caldwell left this city to return home, previous to which he addressed the following letter to Mr. Charles A. Poulson, one of the Editors of the American Daily Advertiser.

Dear Sir,

In reply to your inquiries respecting my complaint, and the treatment for its removal, I will briefly state, that I had been afflicted with the symptoms of stone in the bladder for about six years. For the last three years these symptoms had occasioned me so much pain and distress, that I determined to visit Philadelphia, in order to seek for medical assistance, and obtain, if possible, relief from his terrible malady.

I arrived in the city in the latter end of April, and immediately called upon Dr. Physick, who having ascertained by sounding, that a stone was actually in my bladder, advised me to put myself under the care of his son-in-law, Dr. J. Randolph, giving me the assurance that Dr. Randolph had succeeded in several instances in effecting a perfect cure of this complaint by removing the stone, by means of the operation called "lithotrity," in which case the knife is not at all used. This operation, I am told, is now most successfully and almost universally employed in Paris. I cheerfully acquiesced in this advice of Dr. Physick, a name I must think no less illustrious for benevolence, than for eminence in medical science and practical skill. Dr. Randolph took charge of my case, and

having properly prepared me for the operation, he commenced it on the 19th of May, in the presence of Drs. Physick and Horner, Messrs. Kennedy, Cook, and Henn. The pain which I endured from the operation was not severe, nor did either of the necessary repetitions of it occasion me so much inconvenience as to oblige me to keep my bed for more than a few hours. On the 23d of June Dr. Randolph performed the last operation, which occupied but a few minutes. A few days from this time I found myself free from the pain which I had previously suffered. The Dr. now examined me very carefully, and declared his conviction that I was entirely rid of the stone, and I had the heartfelt gratification of having this declaration confirmed by Dr. Physick, who, after a minute examination on the 4th of July, stated his belief that I was completely cured.

I am yours, very respectfully,

JOS. CALDWELL.

Philadelphia, July 10th, 1833.

It was with sincere regret I heard a few days since, indirectly, that the Rev. Dr. Caldwell was again labouring under some painful symptoms of affection of the bladder; I cannot of course say what the precise nature of his complaint may be; should it however prove to be stone, I feel quite convinced that one or two applications of the brise-pierre would be sufficient to destroy it.

Case V. Mr. F. G. a highly respectable merchant of this city, aged sixty-four years, had experienced for a period of near thirty years, considerable uneasiness in the urinary organs; within the last four years the painful symptoms were aggravated to such an extent, that in June, 1833, he was induced to consult Dr. Physick, who, upon sounding him, ascertained the existence of a stone in the bladder, and had the kindness to place him under my charge.

Upon examination I discovered that his urethra was unusually small; the bladder also was very much contracted and irritable; he seldom was able to void at one time more than a large wine-glassful of urine.

I attempted to inject barley water into his bladder, but could not succeed in introducing more than four ounces of the fluid, and this caused him so much pain that I did not resort to it again.

On the 12th of June I introduced the lithotripteur, No. 4, in the presence of Dr. Physick and G. W. Ritter, Messrs. Kennedy, Cooke and Henn. I very soon succeeded in catching the stone, and drilling a hole through it; I then changed its position, and made another perforation through it. I soon perceived that the instrument used upon this occasion was rather larger than it should have been; it did not work readily in the bladder, and it required some force to withdraw it, in consequence of the blades of the forceps enclosing some sand and mucus which prevented their closing entirely. Subsequently to the operation, Mr. G. voided with the urine a good deal of fine, red, sandy matter; the stone was found to be composed of uric acid, and its diameter was about one inch and a half.

Some hours after the operation the patient was attacked with a chill, which was followed by some fever; this, however, yielded to a bleeding and saline diaphoretics.

On the 5th of July I introduced the lithotripteur, No. 3; very readily caught the stone, and made several perforations through it, and perceived it to break away considerably. This instrument was introduced and withdrawn without appearing to cause him any pain or irritation; he remained setting up the whole of this day, and felt well. On the day following the operation, however, he had a fever, which continued for some time; for the relief of which it was necessary to bleed him twice, and apply leeches over the pubes.

Knowing the stone to be much reduced in size by these two operations, and taking into consideration the extreme irritability of the bladder, I determined not to make any further attempts to destroy the stone until the heat of the summer had passed away, and then to make use of the instrument of Mr. Jacobson in preference to that of M. Civiale. In accordance with the foregoing resolution, as soon as the weather became cool I made five or six applications of the brise-pierre, (I have not kept a record of the dates,) and succeeded completely in breaking up the stone. Neither of these operations occupied more than two or three minutes; the last one was performed in November; a short time subsequently to which, Mr. G. passed out the whole of the remaining fragments, and declared himself to be perfectly free from all the painful symptoms he had formerly endured. I now sounded him very carefully, but could not detect any stone. Soon after the operation Mr. G.'s urine increased in quantity very much, and he can now retain it for five or six hours.

It will be perceived that Mr. G.'s case occupied a considerable time: I will just remark, that his case was an exceedingly difficult one; his situation was very critical; my object was to cure him in the safest manner possible; his condition was fortunately such as to allow me ample time, and I accordingly proceeded very cautiously and am happy that my efforts were crowned with complete success.

Case VI. Richard Judson, aged sixty-five years, a native of England, had been afflicted with the symptoms of stone for several years, he arrived in this city in September, 1833, and applied to me for advice.

Upon sounding this patient I ascertained clearly the existence of stone in the bladder; the urethra was uncommonly large, but I found it utterly impossible to introduce a straight sound into his bladder; the instrument would pass readily as far as the neck of the bladder, and there it stopped; I at once inferred that the obstacle was occasioned either by an enlargement of the third lobe of the prostate gland, or by a tumour situated at the neck of the bladder.

In addition to the symptoms of stone, which were exceedingly painful, Mr. J. was also affected with a most obstinate costiveness, he rarely had a passage under six or seven days, and then not without the aid of an aperient; the hardened portion of the feces came away diminished in size, so as to resemble a large worm; there was also a discharge of mucus from the rectum sometimes mixed with blood.

I must confess that I did not pay a great deal of attention to these symptoms, thinking they might be occasioned either by a stricture of the rectum or by hæmorrhoids, and considering the stone to be the most prominent disorder, to the removal of which last I directed my first efforts.

As I could not succeed in getting a straight instrument into the bladder, I was obliged to abandon of course all idea of employing the lithotripteur. On the 4th of October I introduced Jacobson's instrument, and caught the stone and broke it readily several times. I then withdrew the instrument which brought out within its blades a quantity of calculous matter; the patient suffered very little pain from this operation, and it was not followed by a single unpleasant symptom; he continued for many days to pass out sand and fragments, together with one or two distinct small stones. From this period I did not keep a record of the number or dates of the operations, I requested the patient to note them down, and he promised to do so, but neglected it.

The second operation was performed about the latter end of this month; on this occasion I caught the stone without difficulty and crushed it several times; I also perceived that the instrument had caught hold of some soft substance, upon withdrawing it I was astonished to find that along with calculous matter I had extracted a portion of a firm, fleshy tumour.

I freely acknowledge that I felt considerable anxiety respecting the result of this operation; I kept the patient in bed for several days, and watched him very closely; to my agreeable surprise however it was not followed by the slightest fever or any other bad symptom; on the contrary he rested better at night, and felt himself more relieved from pain. After this operation the patient discharged a considerable number of fragments, together with seven or eight distinct stones of large size, of some of which the shortest diameter was by actual measurement half an inch.

Between this period and the beginning of June, 1834, I made probably ten or twelve applications of the brise-pierre; neither of the operations however occupied more than two or three minutes, nor were any of them followed by unpleasant symptoms; the quantity of stone

voided after these operations was immense, the bladder in fact appeared to be almost completely filled with calculous matter. It should be stated that during the winter the patient's system got into a prostrated state, unconnected with any aggravation of the calculous symptoms, in consequence of which however I did not think it proper to apply the instrument for near two months.

The last operation was performed in the beginning of June, it occupied two minutes; one hour after its performance the patient was up and about his room as usual. A short time subsequently to this operation I sounded the bladder very carefully, and could not detect any stone; expressed the opinion that it was sufficiently broken up; and stating that there might be some small fragments remaining, but that I thought they would be discharged without my being obliged to employ again the brise-pierre.

In the beginning of July Mr. Judson was looking out for a situation in the country, to which he could retire during the warm weather, which seemed to distress him exceedingly; about the 20th of the month however he was attacked with a diarrhœa, and he died on the 29th.

On the 30th my friend Dr. Pancoast had the kindness to make for me the post mortem examination; upon taking out the bladder and rectum I had the gratification to find that I had succeeded most completely in breaking up the whole of the stones; there were remaining in the bladder but four small fragments, much smaller than a great many others which he had passed through the urethra, and had he lived a short time longer these would unquestionably have been discharged.

The structure of the bladder itself did not exhibit the slightest evidence of having been in the least degree injured by my operations; the following note however which I received from Dr. Pancoast will best explain the morbid condition of this organ, and of the rectum, together with the probable cause of the patient's death.

Dear Sir,

In compliance with your request I have made an autopsic examination of Richard Judson. From the nature of the case, and the shortness of the time allowed me, I limited my attention more particularly to the study of the abdominal and pelvic viscera.

The peritoneum, both in the pelvis and abdomen, was perfectly healthy. The mucous membrane of the intestines was more vascular and of a darker colour than usual. Many patches of a dark-brown colour were found at the lower extremity of the ileon. The follicles were also very much enlarged, especially in the large intestines.

Both kidneys were found of their usual size; containing no calculi. When laid open they appeared much softer than usual, so that the finger could be readily passed through them. They were of a purplish hue; the cellular and adipose tissue surrounding them were hard and dense, and could be separated

from the kidney without tearing up its cortical substance. This, with the hyperemia and softening, constitute the strongest anatomical characteristic of long existing nephritis. The pelvis and ureters were healthy in appearance, though enlarged to about four times their natural size. The bladder was much contracted; the walls thickened to about twice their natural dimensions, and of greater density than usual. The cellular tissue connecting it with the rectum and prostate gland, was so hard and dense as to seem to have prevented even a moderate dilatation of the bladder; thus probably causing the dilatation of the ducts of the kidneys by the accumulation of urine in them. From the healthiness of the structure of these ducts, the inflammation of the kidneys could not within any recent time, at least, have been an extension of disease from the bladder. The mucous membrane of the bladder was thicker, but not softer than usual. The cavity of the bladder was of very irregular form; the prostate was enormously enlarged, and generally of a scirrhous hardness; it formed an irregular sphere of about two inches and a half in diameter: its vertical development was almost entirely at the expense of the cavity of the bladder. The projection made by the middle lobe into the bladder was about the usual size of the entire gland. On each of the enlarged lateral lobes was a projection overhanging the caput gallinaginis, about the size of the human ovary. The opening into the bladder was thus very much obstructed, and nearly vertical at the prostate gland owing to the projection of the middle lobe. On the right side of the caput gallinaginis, was found one and on the left two smooth, oval cavities, extending almost to the bottom of the prostate, all of which appeared to have contained calculi, and in one a small calculus was found. These cavities were from half an inch to three-quarters in diameter. The bas fond of the bladder was formed of two similar cavities, with an elevation of the mucous membrane between them. In the posterior wall several cavities of the same sort were found, two of which contained small stones. The cysts were formed of all the tunics of the bladder. Four fragments of calculi were found free; the largest of which was about the size of a small hazelnut. The projections of the prostate gland into the bladder, were softened and pultaceous at their top, and of a dark colour. In the centre, and on the side of the rectum, the gland was of a scirrhous hardness, and of a bluish colour.

The anterior wall of the rectum, immediately adjoining the prostate, was softened and almost removed by ulceration, for an extent about equal to the size of the gland. The margin of the ulcer was steep and scirrhous; the tunics of the intestines blended together by the disease, with that complete loss of anatomical character which we observe in cancer. Opposite this place, and just below it, the calibre of the intestine was very much contracted, so as to leave but a very narrow opening for the passage of the fæces.

Yours, very truly,

To Dr. Randolph. J. PANCOAST.

As I propose at some future day, upon greater experience, to offer my views relative to this most interesting operation, more at large, to the profession, I shall not at present anticipate any remarks which I may then have to make, further than by replying to one or two objections which have been urged against the operation.

It has been stated, and that too by some who profess themselves friendly to lithotripsy, that this operation will be found applicable to a small minority only of the cases of stone. The ample experience of the European gentlemen engaged in the performance of this operation, backed also by my own limited observations, has led me to a very different conclusion. I believe that of the cases of stone in adults, eight out of ten will be found suitable to the operation of lithotripsy. Stone occurring among children I do not take into consideration, because in them the operation of lithotomy is comparatively so safe that I do not think it requires a substitute.

Since engaging in my first case of lithotripsy, in September, 1832, ten cases of stone in adults have come under my notice; the history of six of these cases I have already detailed. The seventh case occurred in a coloured female, who had a small stone, which I have no doubt could readily have been crushed; she, however, suddenly disappeared, and I have never seen her since. The eighth case occurred in a young man from Virginia, upon whom I operated twice successfully in the Alms-house Infirmary, in the presence of a number of gentlemen; this patient unfortunately contracted a typhus fever, and when convalescent, returned home to recruit his strength, under a promise to return; he, however, was induced to submit to lithotomy in Virginia, and it was stated that the stone was broken by my operations. The *ninth* case occurred in a gentleman of this city, who changed his mind during the preparatory steps for lithotripsy, and was successfully cut by Dr. Harris. Dr. H. informed me subsequently, that the stone was so soft that it broke into pieces in extracting it from the bladder.

The tenth case occurred in a medical gentleman who came on to this city from North Carolina, with the express view of submitting to the operation of lithotripsy; I freely admit that the operation was not applicable to this case; upon repeated examination I ascertained that there was an ulcer situated just beyond the mouth of the urethra, in consequence of which the canal was so much contracted at that part, and the attempts to dilate were productive of so much pain, that I was obliged to abandon lithotripsy, and perform on him the operation of lithotomy, which terminated successfully.

Another principal objection which has been urged against the operation of lithotripsy, consists in the difficulty of extracting the numerous fragments into which the stone may be broken, and the liability of such fragments to remain in the bladder and serve as nuclei for the formation of other stones. This may appear to be a very important consideration to persons unacquainted with the extraordinary power which the bladder and urethra possess to discharge foreign substances

lodged in them. I have so repeatedly, however, witnessed the discharge of fragments, of almost incredible size, that I am well convinced this difficulty has been very much exaggerated, and I believe that by proper attention, any fragment which may exist in the bladder, and be too large to pass into the urethra, can be detected by a sound, and broken up by an instrument, so as to admit of being discharged.

With respect to the fragments lodging in the bladder, and serving as nuclei for other stones, I here wish to record a fact, which I am not aware has been noticed by any preceding writer, it is this—that *fragments of stone lodged in the bladder, and too large to pass through the urethra, so far from invariably increasing in size by accretion, in many instances have their angles and sharp corners so rounded off by the action of the urine, as to be reduced to a less size, and admit of being discharged.* I have several specimens which conclusively illustrate this fact.

If it be admitted, however, that a fragment of stone remaining in the bladder forms a sufficient objection to the operation of lithotripsy, it must be conceded that the same objection applies in no small degree to the operation of lithotomy. It not unfrequently happens in extracting a stone through an incision of the bladder, that owing to its softness it is crushed into innumerable fragments by the blades of the forceps, and under such circumstances, no man, whatever care he may exercise, can say with certainty that he has extracted every particle of the calculus. I believe the operation of lithotomy is very rarely performed without some small fragment of stone being broken off during its extraction, in a great majority of cases such a fragment escapes from the bladder along with the urine; in other instances, however, it may remain and serve as a nucleus for another stone. Cases indeed are reported in which after the operation of lithotomy has been performed, there has been a recurrence of the stone, and the patients have been cured by the operation of lithotripsy.

With respect to the comparative safety of the operations of lithotripsy and lithotomy, this is a point which experience alone can determine; my own impressions are in favour of the former operation, at any rate it is the one which I would select to have performed on myself in case of need.

It must be conceded that the operation of lithotripsy possesses one great advantage over lithotomy, sufficient, I think, of itself to outweigh all the objections which have been enumerated—which is, that it is not attended with the danger of incontinence of urine.

This evil which not unfrequently occurs in males, and almost invariably ensues from the operation of lithotomy in females, is itself

of such magnitude as to render life scarcely desirable. May we not hope that the day has arrived when no man will be willing to subject an unfortunate female to such a terrible consequence, by resorting to the operation of lithotomy instead of lithotripsy.

I do not propose to enter upon a discussion of the relative merits of the several instruments used for the performance of this operation; it is very natural that the inventor of each of these should endeavour to establish his own method, by using every argument in his power in favour of his own instrument, and saying as little as possible in praise of that of his rival.

Admitting that M. Civiale has exaggerated not a little the successful results of his operations, still it cannot be questioned that he has performed a sufficient number of cures to immortalize his name, and we cannot for a moment suppose that the rewards and honours which have been heaped upon him by competent judges, would have been bestowed upon one undeserving of them.

Mr. Leroy d'Etiolle, who claims the merit of being the principal author of the operation of lithotrity, in a statement made by him in July, 1833, says, that out of thirteen cases of stone he succeeded in curing twelve; he admits, however, that in each of these operations he made use of the brise-pierre articulé of Mr. Jacobson, and that three of the cases were cured by means of this instrument alone.

The "percuteur courbe a marteau," invented by Baron Heurteloup, I have not yet had an opportunity of procuring; the success derived from its application by its distinguished author has been flattering in the extreme; out of thirty-eight cases of stone he succeeded in curing thirty seven; these operations were witnessed, and are certified to by some of the most distinguished surgeons and physicians of all Europe.

Sir Astley Cooper placed the unsuccessful case under the care of the Baron, and after death furnished its autopsic history, in which he says there were sufficient causes of death independent of the operation.

It is not necessary for me to repeat what I have already said in praise of Mr. Jacobson's instrument.

I cannot conclude this paper without offering to each of the names I have enumerated the homage of my unfeigned admiration and respect for having ameliorated the condition of suffering humanity, and enriched our science by the introduction of their most useful and important discoveries.

Philadelphia, September 1*st*, 1834.

Art. II. *Account of the Epidemic Yellow Fever which prevailed in New Orleans during the Autumn of* 1833. By Edward H. Barton, M. D.

NEW ORLEANS is situated in latitude 29° 57′, and longitude west from Washington 13° 9′, on the left bank, and in a large bend of the Mississippi. It is ten feet and a half above the level of the sea, from which it is distant in the course of the river about one hundred miles, about sixty miles in a south west, and about forty in an eastward course. Five miles north of it is Lake Ponchartrain, which receives the drainage of the city and superfluous waters of the vicinity through the Bayou, St. John, &c. The inclination from Levee street in front, to Rue Marais in the rear, is about eight feet three inches. The city is fanned by the delightful sea breeze from the south west every morning, which is the harbinger of health whilst the prevalent wind. The river rises about fourteen feet, and generally reaches its maximum elevation late in March or early in April. The level of the city is several feet below high water mark, and it is protected from inundation by an embankment or levée three feet and a half high, which extends about five miles along the river, and about two-thirds of a mile back to the swamp. The city is built upon a soft alluvial soil but a few feet above the water in the wells, (dependent upon the state of the river,) the dampness is consequently very great; the streets are filthy, and but partially and badly paved. In the body of the city, ($\frac{1}{24}$th of the whole area,) water is made to run constantly along the gutters from the river to the swamps during the summer. In 1830 the city contained about 46,310 inhabitants, exclusive of a floating population during the winter and spring months of from 15 to 20,000; increasing on an average of near $2\frac{1}{2}$ per cent. per annum, and hence containing in 1833, 53,234, making altogether about 70,000 inhabitants.

The prevailing diseases of *January*, *February*, *March*, and *April*, 1833, were decidedly intestinal—diarrhœa, dysentery, and many cases of cholera.

During *May* the range of the thermometer was 18°; maximum being 88; minimum 70, and average of the whole month 78.42. The range of the barometer was .30, the maximum 29.70, minimum 29.40, and average 29.74. Winds principally from the S. W.; quantity of rain 6.22 inches. The character of the diseases continued to be decidedly intestinal, with a great tendency to run into cholera from neglect or improper treatment.

In *June* the range of temperature was 25°; the highest being 94; lowest 69; average 82.09. Barometric range .43; the maximum being 29.75; minimum 29.32; average 29.62. Rain 6.22 inches. Winds steadily from S. E.; in latter part of the month more S. W.; weather raw, disagreeable, and particularly so when the cholera reached its height, about the 8th, when there occurred a heavy fall of rain, with much thunder and lightning, soon after which the wind veered round to the S. W. and W. the disease gradually declined. The epidemic strongly impressed its character upon most diseases of the month, uniting its symptoms with those of other diseases, as cramps, or rice water discharges, with ordinary symptoms of bilious fever—or the peculiar coldness, or the vomiting, with a *great* and *indeed* excessive sensibility of the *alimentary canal*, with liability to run into diarrhœa upon the least change of temperature or transgression in living. This disease was indiscriminate in its attacks, with regard to age, sex, or colour, selecting those whose equilibrium of constitution was deranged or thrown from its balance from intemperance or imprudence of *any kind*, or from change of diet—*always* however with premonitory diarrhœa, ranging in its duration from six to forty-eight hours, and running into collapse in from three to twenty hours. The disease finally lost its intensity and prevalence with the changes in the condition of the atmosphere.

The thermometric range in *July* was 19°; highest 90; lowest 71; average 81.13. Barometric range .25; maximum, 29.82; minimum 29.57; average 29.70. The prevailing winds were S. E. and S. W. Weather showery; the fall of rain but 3.3 inches: the city again became pretty healthy, though great liability to take on intestinal disease on change of weather to cold and damp, and with east winds, and during the highest range with cold nights, bilious fever.

During *August* the range of the thermometer was 19; the highest being 90; lowest 71; average 79.97. The barometric range .27; the maximum 29.79; minimum 29.52; average 29.58. Rain 8.17 inches. The winds in early part of the month mostly S. W. and N. W.—a few days from S. E. The weather showery; days and nights hot and oppressive; the thermometer often at 10 and 12 P. M. and at 1 A. M. as high as 81, 2, 3, and 4! a height of temperature, at night, unprecedented in this country, where the summer nights are usually as cool and pleasant as in any part of America. Before the middle of the month the wind got round to the eastward, and continued blowing fresh with a high thermometric range, the weather very oppressive and showery, and from the streets there arose a very offensive odour. In the second week the yellow fever broke out, and continued in-

creasing until it reached a daily average of thirty cases. Its type was mostly malignant, with great determination to the head.

During *September* the thermometric range was 21; the highest being 88; lowest 67; average 77.57. The barometric range .23; the maximum 29.73; minimum 29.50; average 29.60. Rain 5.50 inches. Winds regularly E. and S. E. until 21st, when they came from the N. continuing three days; thence returning to S. E., E., N. E., blowing all the time *very fresh.* The weather being exceedingly disagreeable and raw—during the first week rain almost every day, and producing an influence on one's feelings beyond the temperature and moisture, there being a great deficiency in reäction in the cases: during the second week more hot and oppressive; temperature at night 79 and 81. The diseases during this week were more mild and manageable, though the number of cases was not diminished. During the third week the weather was more pleasant, though warm for the season—the winds shifting, but never getting west for more than an hour or two; the number of cases lessening, probably from fewer subjects, but strangers came in, and added somewhat to the mortality. The disease now participating more of the type of our usual fall fever, with symptoms of deeply radicated gastro-enteritis, with comatose tendency. In the latter part of the month some intermittent fevers, diarrhœa, dysentery, and a few cases of cholera.

During *October* the thermometric range was 39½—the highest being 80; lowest 41½, and average 65.53. The barometric range .43; maximum, 30.03; minimum, 29.60; average, 29.75; rain, 3.5 inches. The weather has been during the first week very pleasant, some cold mornings, but middle of the day hot. Winds N. W. to N. E. and E. The disease became more mild, the type somewhat changed; eyes not red; tongue less white on surface, but edges more deeply red, and sooner become dry; fever continues longer, and skin more obstinately dry. Some of intermittent and remittent type; the cold weather found very injurious to the sick. The weather continued rather warm to the 18th, and then gradually cooled down on the 22d to 41½, when there was perceived a slight frost in several parts of the city, and some ice was seen, the winds changing from S. E. and S. to N. W. and N. and still blowing fresh. There has been no calm throughout the season. The disease continued notwithstanding several frosts, though mostly confined to new-comers, and particularly steerage passengers. The wind in the latter part of the month occasionally from its old quarter, S. E. and E. and N. E. and high; dust very oppressive from the long drought. The type of the disease continued to change from the ardent character of the first part of the

season; no great external heat and with a particular disposition to run into a protracted form; not the same force and activity of the sympathies; there did not seem such an urgent demand for activity of treatment. Disease mostly confined to steerage passengers and strangers generally.

The thermometer's range during *November* was 50—the highest 77; lowest 27, average for the month 55.03. The barometric range .53; maximum 29.97; minimum 29.44; average 29.73; rain 2.40 inches. The winds in early part of the month S. E. and E. temperature, very pleasant. It changed about the 10th or 12th, the day preceding the splendid meteoric phenomenon of the falling and shooting stars, to N. and N. W. and seldom was E. again. The disease gradually disappeared—during the first week some cases at first wanted none of the symptoms of the epidemic, notwithstanding the frosts which were unusually early and severe; and in the latter part of the month much of bronchial irritation developed itself.

During *December* the thermometer's range was 44, the highest being 72, lowest 28, average 56.65. Barometric range .53; maximum 29.93; minimum 29.40; average 29.68; rain 3.71 inches; the winds very variable, N. E., N. W., S. W., &c. It has been an unusually cold month, rains frequent, and hail the size of a musket ball on the 13th. Bronchial irritations and inflammations the prevalent disease, with a few cases of scarlatina and cholera.

As precursory to the dreadful scourge which followed, it becomes me to mention several enlargements of the inguinal glands, occurring without the least suspicion of venereal contamination, similar to those mentioned by authors as premonitory of the existence of mortal epidemics; also several cases of menorrhagia. The streets throughout the city were filthy, exhaled a peculiarly offensive odour after rains, and generally so at night. There was much sickness with horses, cattle, and swine in the country.

The country throughout was unusually sickly; crops fine; fruit bad. Weather during autumn beautiful, air cool, delightful atmosphere, exhibiting the brightness of an Italian sky, as has been so often remarked during our severe epidemics.

Diemerbroeck, (on the authority of a number of writers; and the same has been remarked by Dr. Rush and many others,) observes that an uncommon abundance of insects, for many years has been noticed to portend pestilence, and we accordingly remarked here, that the flies and mosquitoes particularly were unusually numerous preceding the epidemic—the latter continued throughout the season.

From the preceding succinct and general medical and meteorological history of the year, it cannot have escaped attention that the precursors of the malignant epidemic of the season were gastro-intestinal affections of every grade and severity, from simple extra-sensibility of the gastro-intestinal mucous membrane, to the malignant cholera running its course in six hours. The evils resulting from this epidemic constitution of the atmosphere, and the predisposition to the malignant yellow fever that afterwards occurred, was greatly aggravated by the adoption of the advice so generally given. to live high and drink freely of brandy, &c. to prevent an attack of cholera.

The *local causes* of the epidemic are numerous, some of them so nearly affecting the habits and prejudices of the people, that they have been pointed out in vain, and I therefore forbear extending the limits of this paper by enumerating them.

The heat of the nights in early summer was a departure from our general experience in this climate, and the long continuance of the *easterly winds*, blowing *fresh at the time*, (not one day, and scarcely an hour calm,) with their remarkable influence, as every one observed, in lowering the healthy tone of the body, probably from depriving it of its electricity, doubtless influenced to a great extent the intensity of the prevailing disease. These winds uniformly exasperated the yellow fever, and if they do so, they *can surely tend to produce it.* The truth is, that during the great epidemics of 1800 and 1819, these winds "*prevailed constantly for a period of three months.*" The same occurred here in both the epidemics of 1833, (cholera and yellow fever,) during the dengue in 1828, and also precursory to and at that time, to an unprecedented extent preceding and during the dreadful epidemic cholera here of November, 1832, and the injurious effect of easterly winds has been remarked by others.* The unusually early and severe fall and winter will long be remembered; indeed since the epidemic cholera reached America, and some years before, there had been a series of *unseasonable* years, defying all the calculations and anticipations of the planter—destroying his hopes and blasting his fortunes, only paralleled by the character of the same dark drama of floods and failures of crops which has been enacted on a more costly scale to the Asiatic nations, preceding and coëxisting with the outbreak of epidemic cholera there in 1817; such as droughts and deluges, storms and tempests, and a range of temperature out of all season and experience. These remarks have been verified by re-

* Vide Chapman on Epidemics, and Edinburgh Review, No. 72, &c.

ference to my meteorological journal, which I have kept for nearly fifteen years.

To the medical historian of this year's remarkable incidents belongs the curious fact, which has been elsewhere observed, of an increased tendency in females to multiply during and after great general epidemics, after a cessation of many years, as if it were in the order of Providence to supply the place of those taken off by the ravages of pestilence. Numerous instances have fallen under the knowledge of myself and friends, too many for remarkable coïncidences; one where the lady had ceased twenty-five years, being fifty years of age; another thirteen, &c. &c. It is in vain to speculate upon an occurrence so extraordinary; our life, death and existence in every variation and gradation are dependant upon the condition of the atmosphere in which "we live, move and have our being," how important then to study its character, to understand and modify its influence, and prevent and cure the diseases incident to its qualities and vicissitudes.

The range of the thermometer has been supposed to have great influence in the production of yellow fever, and meteorological tables from 1793 to 1817 in Philadelphia, embracing numerous epidemic years, have been published, showing its connexion, if not dependance upon it, and a successful attempt seems to have been made to demonstrate its *dependance* upon an average at 3 o'clock of not less than 79° during the summer, and especially during the two whole months of June and July; and the extent and malignancy of the disease to be proportioned to the extent in which it exceeds that height; and the writer successfully refers, as proofs, to the tables of mortality occurring during the above period of twenty-five years; and he further believes, that the average temperature of the two months of June and July, at 3 P. M. (or midday,) to govern the season, with reference to health, insomuch that if by the 1st of August in any year the thermometer properly placed, indicate during these periods a less degree than 79°, we may feel full confidence that during that season they will not there be afflicted with yellow fever. We are not without other authorities bearing upon the same point. Sir Gilbert Blane says that "this fever is restricted to a certain range of atmospheric temperature, not appearing unless the heat of the air is permanently equal to that within the tropics, that is, about 80°;" and M. Arejula, (a Spanish physician of eminence,) says "that under 23° Reaumur, (82° Fahrenheit,) it never appears." Let us see how far this will apply to our climate for the last season—its bearing or connexion with former years, I reserve for a future opportunity.

1833.	Midday.	Average for the Month.
June - - - -	86.76	82.09
July - - - -	85.16	81.13
August - - -	83.61	79.97
September - -	83.	77.57

This appears to afford a strong corroboration of the authority above cited.

The epidemic, of which it is the especial object of this paper to give an account, commenced its ravages on the first week of August, reached its acmé about the middle of November, and gradually lost its peculiar character in the first week of November.

As it is impossible to embrace in one general view a fever whose various types were easily recognised by the eye of experience and observation, I shall notice such grades as were obvious to me. These varieties do not indicate any specific difference of action, but constitute different grades of the same action, in individuals of different temperaments, susceptibilities, exposures; form natural classes, having a family likeness, which are essential to be observed, as leading to a just prognosis and proper treatment.

Class I. The Congestive.—The attack is sudden, the patient is at once prostrated and overwhelmed; there is dull pain in head; questions are answered with difficulty; skin bronzed; eyes red and muddy, like one drunk; pulse weak, soft, or natural; tongue with red edges or natural; extremities cold, and skin generally so, except the central portions of the body, which are preternaturally hot; pain and oppression in epigastrium; appearance of great anguish, or insensibility; the patient lying uncomplaining on one side or back as if but little ailed him; stupor; pupils enlarged; hæmorrhages. Reäction slow, and requiring much but cautious depletion to open the condition. See Case II. as a prototype of this class.

Class II. The open inflammatory form.—This was the most usual, it commenced generally with a chilliness, followed by violent pain in the lower part of the forehead, just below the eyebrows, and in the back and loins; high fever; pulse from 100 to 125; tongue white with red edges; eyes inflamed and blood-shot, with the peculiar muddy, idiotic expression, with great sensibility of the stomach, and ardent desire for cool drinks; tenderness and tension in epigastrium, running through regular stages. See Cases I., III. &c.

Class III. Simple Form.—This class differs but little from the preceding, except in the general mildness of the symptoms; the pain in the head is more diffused and general; not much or severe pain in back or extremities; the tongue sometimes loaded, edges red and fleshy,

and still great sensibility of the alimentary canal to medicines; the type easily recognised by the peculiar expression of the eyes, not so red and injected, but dull and muddy, occurring mostly in the latter part of the season, or in those accustomed to a southern latitude, in whom the predisposition was not strong, and acclimating mild.

The *common course* of the fever is to commence, often without any preceding indisposition or premonitory warning, with a chill which lasts sometimes half an hour, usually less, though sometimes it is absent. This chill is followed by high fever, with an intense super-orbitar pain, apparently unconnected with great disordered action of the brain, as the intellectual functions are generally unimpaired, though occasionally there is delirium—a peculiar inflamed glossy appearance of the eye, easily recognised but difficult to describe, a strange compound of muddiness and lustre; pulse 120; great thirst, and desire for cold drinks, with occasional vomiting; pain and heat of stomach; tongue white on surface, with red edges; this generally continues with more or less intensity from twenty-four to forty-eight hours, when there is a remission of all the symptoms, and the patient often feels very well. There is often an anxious expression of the countenance, and jactitation. This condition continues from twelve to twenty-four hours—depending very much upon the treatment; if recur, fever returns, with vomiting or delirium; pain in the head; often suppression of urine; hæmorrhages; extreme sensibility of stomach; black vomit; death.

In internal diseases we cannot *see* the organs which suffer, but fortunately for humanity, suffering organs speak a language through the sympathies, (the symptoms,) which should never be misunderstood. For the deficiency of our senses we call upon the resources of our reasoning faculties; for it will be admitted that many things are demonstrable to reason that are not so to sense, and if we cannot *see* the diseased organ, we will interpret the language which nature speaks, and direct our treatment, (the *only* purpose in understanding *it*,) to answer her petitions for relief.

Appended to this article will be found a condensed abstract from a detailed table, (too large for publication,) kept of all the cases occurring under our immediate care during the epidemic, and an account of the symptoms of the disease, so far as they could be procured, showing the participations in the disease of the great organic apparatuses of the system. From this table it will appear, (and the analysis is necessarily very imperfect;) 1st, that in *every case* of yellow fever the stomach is more or less inflamed—that *it* is the primary seat of disordered action, from which emanate directly or indi-

rectly all the symptoms; that the other organs are variably and sympathetically affected; that they can be removed without removing the disease; that this relief is by means acting through the stomach; that when the symptoms of affection of the stomach are removed, the disease is cotemporaneously removed; that the direct effect of treatment, whether stimulant or antiphlogistic, shows its direct influence on the disease through the stomach—in the first case, aggravating the symptoms—in the second, relieving them: and finally, the appearances after death, showing the causa mortis to be gastro-duodenitis. To the all-important question, then, what organ suffers most and primarily in yellow fever, the disorganization of which produces death, the restoration of which produces health, and which is the seat of the ravages found after death, will be answered by an analysis of the symptoms, and by reference of them to their true and only origin—*the stomach.* This organ is connected to other organs by two order of sympathies: 1st, the *organic sympathies;* and 2d, *sympathies of relation.* To the first belong *affections of the heart*, as great frequency, or great slowness of the pulse. One case occurred in which the pulse was but 40 in the minute during nearly three days; the intense beef-steak redness of the tongue; anxious expression of countenance; pain on pressure in epigastrium, and on drinking warm or stimulating fluids, and the great desire for, and gratification on, drinking cool and subacid fluids, left no doubt of the correctness of attributing it to inflamed stomach—which was proved also by two local bleedings from the epigastrium and cooling drinks relieving it promptly. 2d. The general anxious expression of *countenance.* 3d. The deep sighing and occasional cough in the *respiratory* system. 4th. The colour, dryness, and moisture of the *general surface.* 5th. The occasional constipation, or diarrhœa, of the *intestines.* 6th. The occasional biliousness of the *hepatic.* Bilious vomiting, I think, I met in but one case; here there were evidences of excessive hepatic secretion throughout the disease—the *discharge furnished no relief*, and the fever was very obstinate and difficult to be subdued. On its termination the patient was quite yellow. No mercurial preparation was given throughout his disease—*bilious secretion* being *over-free* without it; and he recovered his colour and health in a few days, (see Case VII.) 7th. The suppression of, or high colour of the *urine.* 8th. The occasional hæmorrhages, &c. from the *uterine.* 9th. And the white surface and red edges, and occasional dry appearance of the *tongue.* Dr. Rush remarked in the yellow fever of 1793 that "the tongue was in every instance moist and of a white colour, as the disease advanced it assumed a red colour, and red shining appearance; it was not quite dry in this state:"

this concurs with the general experience of writers on this disease. To the *second* belong those affecting the *cerebro-spinal system*, as pains in the head, back and limbs, and want of sleep, delirium, &c. That the brain and nerves are but sympathetically affected in this disease, besides what has been above said, is further proved from the fact, long ago remarked by Dr. Rush, that "it was very uncommon to see tremors of the limbs and twitching of the tendons in it, which occur only in those where there was a predisposition to nervous diseases," which has been corroborated by subsequent observers, and the rapid recoveries from it is still further evidence of the fact, these occurring in diseases only in which the brain and nerves remain for the most part unimpaired.

Besides these there are the *direct evidences* of the involvement of the stomach itself, known from the great thirst and desire for cold drinks, and the benefit in indulging in them, and anguish, uneasiness and pain produced by warm and stimulating fluids; the loss of appetite, the vomiting and the pain, and tension and heat in epigastrium; the condition of the tongue; the immediate effect of local detractions of blood from the epigastrium, relieving all these symptoms, and the influence of soup and other stimulants, producing red and dry tongue and delirium, instances of which will be mentioned in the cases. I may mention now, that an example occurred in Mr. B. of perfect bulimia, with all the symptoms of the fever; red, clean tongue; red, fiery, staring eyes; pain in the epigastrium; great thirst, desire for cold drinks; two or three local detractions of blood from the vicinity of the stomach soon relieved it and he recovered.

Further proof there cannot be wanting of the *specific* and *general inflammatory* nature of the disease under consideration, for besides the predisposing causes and the particular circumstances, to prove the existence of local inflammation; the high pulse and general fever; the delirium; the blood-shot eyes; the white tongue, (so often enumerated by authors as a proof of inflammation;) the hæmorrhages; the violent pains in the head, back, and limbs; its rapid termination by disorganization of important organs, and almost uniformly of the stomach and duodenum, if not speedily arrested by depletion; the inflammatory character of the diseases that preceded it; the long continuance of the hot dry weather. Sydenham, Rush, Hillary, &c. have remarked that diseases are made more inflammatory by this description of weather, and lastly the great and immediate benefit from the use of general and local depletion and antiphlogistics.

Dissection showed in every case, inflammation of the *stomach* and *duodenum*, and sometimes extending varying distances into the gall

ducts, even as far, in some cases, as the gall bladder itself; the *liver usually unaffected;* the gall-bladder containing a due portion of *healthy bile.* In intemperate subjects there is sometimes found great engorgement of the vena portæ. In the congestive cases, where the system sunk with imperfect or no reäction, pulse unaffected, or small and quick, stupid drunken expression of countenance, the whole alimentary canal exhibited symptoms of the most intense devastation, even to effusion under the mucous membrane, and almost gangrenous degeneration. These appearances were extensively observed by Drs. Hunt and Stone at the Charity hospital, whose numerous dissections in such a loathsome disease, at such a season, entitle them to great credit.

These autopsical researches correspond with those which have been usually found in this disease in various parts of the globe, fully proving it to be *gastro-duodenitis* with occasional involvement of the brain, liver, &c. dependant much upon season and habits; but these latter organs are seldom *primarily* involved; their derangement can be relieved without curing the disease; they are seldom the cause of death. This however is not the case with the former; there *can be no yellow fever without gastric symptoms;* there *can be without cerebral* or *hepatic;* the involvement of these latter organs is often due in a great measure to the treatment. Hepatic or cerebral stimulation *must leave its impression behind it,* and how far stimulants are indicated in the disease, when these organs are so often already *over-stimulated* or liable to become so, must be answered by those who are in the habit of prescribing that class of medicines.

From the foregoing observations and physiological explanation of the symptoms, we presume the following corollaries will be admitted, viz.—1st. That there are *general symptoms* of *inflammation.*

2d. That there are symptoms of specific or *local inflammation.*

3d. That the *primary seat* of this inflammation is in the *stomach.*

4th. That other organs are but *secondarily* affected, as the brain, liver, &c. Upon this pathology we lay the foundation of our treatment.

Let us proceed then to the exposition of the principles simplified by this view of the subject, and reduced in its indications, to—

1st. Controlling or subduing the general inflammatory disposition of the system, produced by the primary influence of the disease on the most susceptible organ, and one having the greatest range of sympathies.

2d. Subduing that inflammation itself; and—

3d. Removing its sympathizing consequences in the organic system, and system of relation.

The 1st is accomplished by general bleeding.

The 2d by local bleeding, by cooling drinks, &c.

The 3d by local detractions of blood, by cold ablutions, ice mucilages, aperient medicines, enemata, pediluvia, and fomentations, &c.

The modus operandi of the 1st.—The heart being connected with the stomach in the closest organic sympathy, it soon partakes of its irritations, and extends, by its universal action, its excitement to other organs, increases the extent of diseased action, embarrasses to that degree all the functions, and cripples the ultimate recuperative energies of the system by weakening its power, besides keeping up the irritation in its original seat: hence, then, the importance of arresting *in limine* the undue action of this important viscus, there is no mode that so rapidly and speedily affects this very often indispensable object as the lancet; and probably in no disease is this more essential than in yellow fever. This is emphatically a disease which runs through its *curative stage*, (when severe,) more rapidly than almost any other, (cholera excepted,) seldom extending beyond thirty-six hours. Neglected or improperly treated beyond this period, disorganization of some important organ, or some fatal congestion, is almost sure to occur. From these circumstances, then, the great importance of the early abstraction of blood when there exists excess of plethora, to diminish the momentum of a powerful internal stimulus. I found also relief much more surely obtained, and much more permanent when the blood was drawn whilst the patient was in a horizontal posture; when taken in an erect position, even ad deliquum, the pain in the head was sometimes not relieved by it, or if so, would rarely continue long. It was a rule then with me to bleed at first, (if called early,) in the horizontal position until *all pain* was relieved, and to repeat the operation at its return, provided there was much force in the pulsations of the left ventricle, and no sufficient contraëvidence of prostration. When I had thus subdued arterial or febrile reäction, and reduced the plethora of the sanguiferous system, and there was return of pain, it was left to the controul of local bleeding. The effect of thus bleeding—when the febrile conflict had reached its height, seldom failed to calm the commotion in the system, prevent unnecessary waste of the vital energy, by moderating the violence of reäction, quiet the irritated organs, and prevent the extension of irritation to remote parts of the system: and I carry it so far until all the urgent symptoms, proceeding from excess of reäction, have disappeared, or been subdued. We thereby prevent the consequences which we know, from reasoning and experience, will result from in-

flammatory congestion produced from unrestrained excess of action in the blood-vessels, at a time when the system is necessarily debilitated from the long continuance of solar heat, occurring as this disease usually does in the last of the summer months.

In bleeding, my object was not so much the quantity of blood removed, as the *impression* made upon the system by the evacuation, and one efficient bleeding, as soon as the febrile excitement is developed, will do more to diminish the excitement of the heart and arteries, and in subduing the violence, and shortening the duration of the disease, than a dozen "moderate" bleedings. These tend to diminish strength without controlling the disease, or removing the inflammatory or congestive tendency of the blood-vessels to particular parts—the heart and arteries have time to accommodate themselves to its loss, and thus resist the subduing influence of the measure: less blood then is actually expended, and the impression kept up in the system. Hence then the difference between Dr. Rush's bleeding twelve to fifteen times, taking each time eight to fifteen ounces, and that recommended here. The object being *effect*, and that kept up where requisite by the repetition of the bleeding to the full intent of accomplishing the desired end, and hence the *quantity* was an object of minor importance; it sometimes required seventy ounces at first, and in twelve to eighteen hours ten to twenty more. But then the *end was obtained*—the disease was, as it were, strangled in its birth; the fever in but few instances continuing longer than twenty-four hours after these bleedings, and they produced but temporary debility. Mr. J. (Case III.) was out and well four days after loosing between eighty and ninety ounces of blood; while in other cases, not so depleted, the fever run on three or four days; and in the first case there was rarely a return; while with the second there ensued the insidious remission on fourth or fifth day, with its fatal return soon after—black vomit, &c. In no disease probably is it more necessary to bleed early, if at all, while the system having reäctive power will respond to its impression, and it can have derivative influence. If it be protracted, it cannot cure inflammation with deficient vis vitæ, or remove congestion in a prostrated organism. Hence bleeding was mostly an equivocal remedy after the second day. As the season advanced less detraction of blood was required. The importance of using immediate means to arrest this disease, has been beautifully inculcated by Dr. Rush, by comparing it to Time, which has a lock upon its *forehead*, but none behind. For quantity and repetition, see table at the conclusion of this paper, and the cases in detail.

The second indication was accomplished by local bleeding, cooling

drinks, &c. As soon as the pulse was reduced by the lancet, and their still existed pain in the head, back and limbs, great thirst, tenderness of epigastrium, vomiting—from four to eight cups, or from ten to thirty leeches were applied behind the ears and back of the neck, or to the epigastrium, and with the *uniform* effect of alleviating, and almost always of subduing the symptoms. Thus, each visit of the physician was truly gratifying, and little less so to him than to his patient—for he had the satisfaction on each occasion of evincing his power to afford his patient entire relief, and those who have suffered the agonies of yellow fever, know how great a boon that is. It was sometimes necessary from being called late to a patient, from his having taken medicines, and extended the gastro-enteritic inflammation, from vomiting supervening, or becoming obstinate, continuance of fever, from recurrence of pain in epigastrium, head, &c. again to have recourse to local bleeding. Here leeches are much better than cups, and fully answer the end in view: from twenty to thirty should be applied to the epigastrium, usually ten to fifteen are sufficient, for their being now a great hæmorrhagic tendency, from the vital forces being much impaired, and from the broken down state of the blood, the bites will continue to exude blood, sometimes for forty-eight hours, relieving the gastric pains and uneasiness, vomiting and fever, without much increasing the debility; and this they do by diverting blood from the mucous membranes, the focus of sanguineous accumulations.

It is evident then that general bleeding was often not sufficient, for though it extends its influence to every part of the system by lessening the mass of blood, the relief is often but of short duration, *because the local irritation not being subdued, continues to draw fresh supplies of blood into the tissues*, and they *soon recover their preponderance* over the other organs. Hence this local irritation must be subdued in a *more direct manner*, and the strength of the patient saved: but on the contrary, if local bleeding, (in a case where there is plethora of the blood-vessels,) is not preceded by general blood-letting, fresh supplies would be obtained to be poured upon the affected tissues, derived from the redundant fluid in the system. It is obvious then that they are different remedies—one is to the part what the other is to the raging torrent of the circulation. In cases of severity there is no substitute, it cannot be dispensed with. All disease is local first; its greatest; its *lethal* impression is local; its general impression is sympathetic; is transient. It consists in *active local over-excitement;* the obvious remedy consists in local depletion from

the part itself, or from a neighbouring organ or part, having the closest sympathy or connexion with it from which it is safe.

The well-known influence of capillary bleeding over the undue action of the heart; its antagonizing influence over the centre of the circulation; its removing a local irritation from which originated the vascular excitement; the direct and important sympathizing influence of the stomach with the skin opposite; all corroborated by the direct effect of these means, are each and every one, proofs not only of the correctness of the treatment, but of the pathology. These remarks are happily corroborated by very high authority, of no modern date; Parens and others mention cases of recovery from the plague by hæmorrhages from the nose, &c. continuing one or two days. Rush mentions the same of spontaneous hæmorrhages from the nose and other parts, curing yellow fever. Riverius also cured a pestilential fever at Montpellier by a gradual abstraction of blood, and Dr. Hodges cured the plague in London in a similar manner; "perhaps," says Dr. Rush, "*the uniform good effects* which was observed to follow a spontaneous hæmorrhage from an orifice in the arm, arose wholly from the *gradual* manner in which the stimulus of the blood was in this way abstracted from the body."

And again, he continues, he "often found the pulse so weak, quick and frequent, and with other signs of prostration, that he could not bleed; nature often relieved herself from this condition on the fourth or fifth day, by the discharge of several pounds of blood from the gums, and with the *happiest effects.*"

The same authority and accurate observer remarks, "that plentiful sweats and discharges of purulent matter from external sores cures plague, and that their efficacy depends upon the *gradual manner* in which it is done, and that these discharges may be easily and effectually *imitated* by *small* and *repeated bleedings*," and so highly does he think of these gradual abstractions of "stimulus," as he terms the blood and secreted fluids, that he thinks "*in some future time the only question to be asked will be from what part* of the *body* these *evacuations should be procured*, the order that should be pursued in obtaining them, and the quantity of each of the matters to be discharged, which should be withdrawn at a time! Had that distinguished and eminent man lived to witness the effect of the application of local bleeding in febrile diseases in our day, based upon the more perfect physiological and pathological knowledge of the system, he would have had additional reasons for his professional enthusiasm and gratitude to heaven.

Dr. Williams relates the case of the recovery of a gentleman from the yellow fever following small hæmorrhages which continued three days, from wounds in his shoulders made with the scarifier. The gradual abstraction of blood by leeches had a similar effect in our fever, after the second day, subduing and keeping down excitement, irritable stomach and local determinations of blood. Iced gum water and lemonade were freely allowed to fulfil the same indication, and they contributed largely to the success of my practice, and the gratification of the patient. It was, however, found necessary in some cases of great gastric irritability, to limit the drinks to the smallest possible quantity, and sometimes almost to suspend them altogether, and only to rince the mouth with cold drinks, and to chew ice. The latter indulgence was very valuable, and I sometimes permitted patients to swallow small portions of ice.

For the third, besides the preceding, injections every four or six hours were ordered, to keep the bowels in a soluble condition, and it was in but very few instances *that this did not supersede every other.* To show how little purgative medicine was required, the bowels were kept open by these means, and the *stools were natural in most cases throughout the disease.* Mucilaginous fomentations to the abdomen; when skin hot a free use of cold ablutions; ice in a towel or bladder to the head, and every four or six hours a mustard bath to feet, to equalize the excitement, and to correct or prevent undue determination to the head. The warm bath was occasionally of great benefit where excitement was irregular, and there existed ataxic reaction, to equalize excitement, and then bleeding even in the bath, occasionally answered most valuable purposes. Great wakefulness, a very troublesome symptom, was controlled without difficulty by free depletion from the head. Sometimes there occurred a slight delirium, sufficient to prevent the individual being conscious of what was passing, and recollecting the past, which was relieved by similar means. It was remarked that there was less danger when the pain in the head was, though excruciating, diffused over the entire head, than when confined immediately over the eyebrows.

It was not found necessary in a single instance to resort to tonics during convalescence, (the appetite being already stronger than the digestion,) which was usually very rapid and just in proportion to the preceding unembarrassed state of the constitution. This was remarkably evinced in several who had previously suffered under gastric derangement, (dyspepsia, &c.) and in the cases referred to in the table where return of appetite was protracted; it occurred in subjects who had suffered from protracted chronic ailments, or in latter part of the

season. When this was not the case, the return of appetite and strength was inconceivably rapid. (A gentleman informed me on using some soup which I had prescribed to him, that it passed like electricity through his system, imparting immediate strength—his constitution was unimpaired—see Case III.) Such as these may be said to have yielded temporarily to the blast, they could not resist, and as soon as it passed they stood erect with all their original strength and stamina. Animal food was to be resorted to at first with care, the original gastric irritation being easily reëxcited; the stomach, *(the citadel,)* and bowels, not being impaired by the treatment, and unencumbered by drugging; appetite, and with it, strength, was soon restored. This is otherwise when treated upon a different plan, and the convalescence requires a different treatment; if a patient's bowels can withstand calomel and the drastic purgatives, he can withstand soup, porter, tonics, &c. while physiologically treated, he will only bear the mildest excitement. In the first case, the excitability of the stomach and bowels is worn down by the repeated drugging, if he survives; in the second, only reduced to the grade of recuperative restoration. Hence the first *requires stimulants* to restore the impaired energies of an exhausted constitution; the other the mildest nourishment, as a pabulum for constitutional support; for the treatment consisting only in means to *reduce excess of morbid action;* when that is accomplished, nature only requires support in her constitutional reäction. No experienced, candid, enlightened man will doubt, but that efficient energetic treatment influencing disease, may even alter its stages; it is the test of power and efficiency; it controuls and breaks up morbid action. If then it influences materially the primary impression of diseased action, it breaks up its links, it alters its sequences, it arrests its associations of sympathetic action, if it *directly subdues disease and does not substitute another for it.* Such in fact was the effect of this direct depletory mode, that in but few cases, (when called early and where there was a sound constitution.) *was there a recurrence of fever;* the fever when subdued, which was usually in from twenty-four to thirty-six hours did not return. Hence it is believed to be one of the best evidences of its adaptation to the disease, the true philosophy of the profession. It is at no expense of the constitution. It removes that which *directly* tends to its destruction.

Among the attendants on the late occurrence of the disease were various hæmorrhages—as from the ear, uterus, or anus. My friend, Dr. Hunt, mentioned to me instances occurring at the Charity Hospital, to which he was surgeon, in which blood exuded from the scrotum, and in various cases hæmorrhage occurred from the gums, in those how-

ever *only*, (so far as my observation extended,) where the individuals had taken mercury. A gentleman from the country who had but a few weeks recovered from a severe attack of bilious fever, in which he had been severely salivated, on coming to the city was seized with yellow fever, and suffered excruciating torture in his back, limbs, and stomach, but particularly the former; about the third day salivation came on spontaneously, (for I gave him no mercury,) and he was highly salivated, *without its mitigating any of the other symptoms.* This was followed by profuse and very exhausting hæmorrhage from his gums. He recovered, after a free use of local depletion, but his convalescence was protracted, and it was some time before his appetite returned. A fetid breath was considered a very bad symptom: I saw but one case in which it existed that recovered, and in that case convalescence was very protracted. Great restlessness and jactitation of body was a very bad symptom. I saw an instance of it terminating in speedy death where it was the only alarming symptom. There occurred but two cases of hiccup in my practice. There was for the first few days great liability to faint in the erect posture. A long walk, or rather run, and then plunging into the cold bath, excited the disease in one of my patients: it proved fatal. Intemperance excited it in several. Fear produced it in some. Any thing that tended to destroy the equilibrium of the system, acted as an exciting cause. In one case there was a great and universal soreness to the touch throughout the body. As the disease retired, it assumed in some instances the intermittent form—became more protracted and milder, and almost every instance mentioned in the table of a protraction beyond the eighth or ninth day, were in those occurring in the latter part of the season, or when the constitution had been previously impaired.

Persons of all ages, colours and conditions, who had not been acclimated, were subject to the disease. It was most severe with the robust of middle age and of intemperate habits; it was much milder with the coloured, and in those coming from similar parallels of latitude; most of those from Charleston, South Carolina, escaping, though not universally. The Creoles of the state unacclimated to the city were not exempt. I know of no instance where it was taken a second time. In intertropical countries the disease is rarely taken twice, unless the acclimation may have been lost by a continued residence from the climate for some time in more northern latitudes. In this respect it differs from countries whose winters are sufficiently cold to destroy acclimation, or the accustomed impression of a warm temperature.

I know of no preventive but *rigid temperance*, a free use of the

cold bath, and flesh brush; this has succeeded in persons who were unaccustomed to the city. We are not without distinguished authorities for the efficacy of temperance in exempting from the influence of pestilence, both in ancient and modern times; among others, it may be mentioned that Socrates in Athens, and Justinian in Constantinople, were preserved by means of their abstemious modes of living from the plagues which occasionally ravaged those cities. Dr. Hodges, Howard the philanthropist, the experienced Dr. Jackson, Dr. J. Johnson, Dr. Cleghorn, and Dr. Rush, confirm, by their personal experience, the utility of low diet as a preventive to plague and yellow fever. The details upon this subject are very interesting, but I have no room for them; they are fully confirmed by my own experience, of now near fifteen years, in this disease.

Such then is the result of our experience with the physiological mode of treatment of yellow fever; it is not confined to one year's experience, it is the result of five, and now for near fifteen years in this climate, I have treated, and seen it treated, by nearly every mode. The grounds of preference will be stated in the sequel. I have thus stated, in as succinct a manner as the importance of the subject would admit, the indications in yellow fever, deduced from its pathology, and the treatment which results. The highly satisfactory result may be seen by referring to the tables at the conclusion of this paper, where it is established that out of my seventy-five cases of yellow fever, only six terminated fatally under this mode of treatment, or eight per cent.

I proceed now to enter more into detail, and show the application of the principles and practice to the cases themselves. To show that these views are derived from and sustained by experience, as well as a priori reasoning, and that they have triumphantly stood the test of the late epidemic. Of course, in a paper like the present I can only give the details of a few cases.

Case I. Dr. M'K. aged twenty-eight, of a sanguine-nervous temperament, with great cerebral development, and highly intellectual, was taken on the 19th of August with chilliness, feverishness, and violent pain in the head, epigastrium, back and limbs, and even somewhat delirious; having had several days of similar premonition, which had been disregarded in his anxiety to attend to his professional duties. The pulse was found soft, and a little upwards of 100; eyes red and injected; great gastric irritability, and intense thirst; red tongue with strawberry points. A free cupping from the epigastrium gave great relief; ice in a bladder was ordered to his head; a hot mustard foot-bath every two hours; cool emollients and sub-acid drinks; pur-

gative injection. About *midnight* pain in head returned. Cups to temples gave partial relief; fomentations to abdomen.

20*th.* Slept but little; symptoms returned. Cups to neck and epigastrium, which promptly relieved all the symptoms; emollient enemata every four hours. Attempted to give a cathartic, the stomach rejected it. *Evening.* Recurrence of symptoms; slightly delirious; slept occasionally during the day; pulse 88; tongue same, though paler. Cups to neck, to entire relief.

21*st.* Slept during the early part of the night very well, latter part restless; some pain in head; pulse 88; eyes still red; abdomen soft; cupped neck very freely, to the entire relief of the head. From some symptoms of intestinal irritation, abdominal distention, uneasiness, &c. which occurred to day, (and the cause of which will be hereafter explained, though we were then unaware of them,) it was deemed adviseable to exhibit a cathartic, (cathartic pills of rhubarb—scammony and aloes each two grains,) which was partly rejected. The sensibility of the stomach was increased by the cathartic, requiring renewed and unremitted attention to the iced mucilaginous drinks, fomentations, &c. to remove it. *Evening.* Pulse better; heat of skin and pulse reduced, which this morning had been higher than usual.

22*d.* Slept pretty well; skin cool and moist; pulse natural; free from pain; feels very well; some appetite; bowels natural; tongue cleaning; gave barley water, arrow-root, &c.

23*d.* Slept well; feels in fine spirits; stools natural and *formed;* urine good and sufficient; appetite. *About* 10 *o'clock* complained of irritation in the rectum, a frequent disposition to go to stool, with tenesmus, little or nothing except mucus passing. This at first did not at all alarm us; it was deemed an irritation under the controul of anodyne fomentations and local bleeding, and for five or six hours the pulse did not at all partake of it, nor were there any other evidences of intestinal irritation; when however all these means were found not only to have been tried in vain, but that the irritation was increasing, it became necessary to examine into its probable cause, and it was found that he was labouring under rectitis from the improper and *unauthorized* use of a large glyster pipe by his French nurse, who had been in the *habit of using it unknown to us,* sometimes *every half hour and oftener.* Irritation now extended to the bladder and contiguous parts, producing indiscribable torture.

7 *P. M.* Symptoms became highly aggravated and alarming; pulse sinking; cold extremities. Stimulants; flying sinapisms, &c. were all tried in vain.

Remarks.—Thus this patient was snatched from safety, after he had evidently weathered his disease. The case was extremely interesting, and among the earliest in which the physiological treatment had been tried. The prompt relief in this case from the urgent symptoms by the local bleeding, the gratification of the strongest instincts by cool and subacid drinks, cool air, &c. the avoidance of offensive articles believed to be uncalled for by his condition, and inadmissible from gastric irritability, produced from the patient himself, (a highly talented member of the profession, but inexperienced in this practice,) the warmest expressions of delight and surprise, and was most favourably received by all who witnessed it. It was seen to be aptly accommodated to the objects to be accomplished, and it was obvious it fully and fairly effected them, without suffering, or jeopardy, or loss of time. As much interest had been excited by the case, and he was fairly considered to have weathered the storm, many professional friends, as well as myself, were desirous of witnessing the autopsy, to see how far it would account for such an unexpected event. Accordingly I proceeded twelve hours after death, in the presence of Drs. Meux, Picton, Hunt, Harley, Crockett and Kelly, to the examination.

Autopsy.—Body but little emaciated.

Stomach. Some few patches of redness near the upper orifice; *mucous membrane sound.—Duodenum and small intestines.* Pretty natural.—*Liver and gall-bladder.* Entirely healthy; latter half-full of healthy, but rather concentrated bile.—*Rectum and large intestines.* From margin of the anus to *twelve or fourteen inches up, the rectum exhibited marks of the most intense inflammation, and some incipient ulceration, particularly around the anus.* The large intestines and bladder and kidneys unaffected. The heart was examined by Dr. Hunt; a slight speck of inflammation, if not ulceration, was observed on its lining membrane.

It was not convenient to examine the head.

From the appearances, it was the unanimous opinion of the gentlemen present that there were no sufficient disease to account for the unfortunate termination in this case, but that exhibited by the rectum.

Case II.—*September 23d.* B. H. aged twenty-six; six months here, of a sanguine temperament, was suddenly struck with a violent pain in head, so as to make her stupid, she was carried to bed totally unconscious of her situation. I saw her in four hours, and found it almost impossible to get any answers to my questions, and had great difficulty in rousing her. She was stupid and almost comatose; eyes muddy, watery, and injected; skin bronzed; tongue dry and red; pulse 120, soft, and weak; respiration embarrassed; deep

sighing; eructation; extremities cold. Drew nearly eight ounces by cups from epigastrium and back of ears, which having greatly liberated the circulation, she was then bled cautiously to twenty ounces, which roused her, and she could give an intelligible account of herself. Ordered strong hot mustard bath to extremities, and injections of salt and soap-suds, and spirit of turpentine every four hours; warm cataplasm to stomach; gum Arabic water as drink.

24*th.* Slept well last night; bowels well operated on; stupor lessened; feet cold; thirst; tongue red and dry; bled to ten ounces, and applied cups to epigastrium and neck, and repeat the bath and injections, &c. as yesterday.

25*th.* Better; skin warm and moist; tongue moist; thirst not so great; intellect still dull, and too much disposed to sleep; bowels well opened; feet cool; repeat the cups behind the ears, and continue the balance of the prescription.

26*th.* Much better in every respect; skin and bowels good; tongue moist; ordered mild nourishment.

27*th.* Doing well; no return of fever. Discharged.

Remarks.—Local bleeding is eminently useful in liberating the circulation, when disposed from super-irritation to be concentrated upon a part; this was just such a case, and so are all our worst and most intense grades of summer and autumnal fever, having a local irritation as a focus of sanguineous accumulations, internal medicines have very early the power of removing it, their tendency is to increase it. Many years experience has convinced me that no remedy I have ever seen and tried, has an equal derivative and liberating power to cupping. Reasoning as well as experience are both in favour of it. In this instance I believe there would have been speedy dissolution without it. In such a case, there is not blood enough in the general circulation to permit you to detract from *it.* This fluid is in the capillary tissue. In proportion then as you remove the local irritation, you diffuse the circulating mass, but as the vis medicatrix in producing reäction, would tend, in the present condition of the part, to disorganization, unless its disposition to concentrating action was controlled, bleeding was requisite in the cautious manner used, to prevent it. This was accomplished, the reäctive power was kept in check, fever was controlled, and the case did well. The condition of the tongue showed that the gastro-intestinal surface would not have borne revulsion upon them, by the administration of internal medicine. Hence, the course pursued was the only admissible one, it will rarely fail, when attempted with a cautious boldness.

Case III.—*August* 26*th.* C. M. J., a delicate, sanguineous, ner-

vous temperament, aged twenty-six, eight months here, was taken suddenly on the 26th at 2 P. M. soon after an usual dinner, without any premonition, with chilliness, violent pain in head, back, and limbs, and feeling of malaise at epigastrium. Saw him at 8 P. M. and found him as above; with hot and dry skin; pulse compressible, but sharp, and above 100; tongue white, red edges; eyes muddy. Bled while in a horizontal posture to relief, which, to my astonishment, required about two quarts and a half—then the relief was perfect; ordered mucilaginous fomentations to abdomen; warm mustard bath every three hours; towels wrung out of cold water to head, and surface often washed with the same; mucilaginous sub-acid drink; injection of soap-suds and salt, and to have the vein reöpened if pains returned.

27*th*, 6 *A. M.* Had passed part of the night well; skin hot and dry; pain in head returned; pulse 100; some tension of epigastrium and uneasiness of back; tongue white, with red edges. Bled to relief, which required ℥xx.; ice in bladder to head; directions continued.

10 *A. M.* Some uneasiness of head and epigastrium. Cupped epigastrium with entire relief; directions continued. *Night.* Pulse comfortable; no uneasiness; bowels well moved; stools natural; skin became gradually cool; pulse reduced to 88.

28*th*, 6 *A. M.* Passed a pretty good night; skin rather warm; abdomen soft, though little doughy; some dull pain in head; feet, (which had been rather cold heretofore, by increasing the strength of the bath,) had become very warm. Cupped freely from neck and behind ears, with entire relief, and gave a wine-glass of sweet oil. *Midday.* Oil operated well; natural stools; pulse 92. *Night.* Much better; skin cool; no fever or thirst; eyes clear.

29*th*. Much better; slept well, but sweated profusely; pulse 84; tongue moist and clean, and pale eyes; some appetite; abdomen soft. Continue directions, but lengthening the interval of application. Ordered some very weak chicken water. *Afternoon.* Feels very well; soup revived him very much; feels much stronger; walked several times across the room; pulse 76, soft and full; expression very good, and every symptom of convalescence.

30*th*. Slept well last night; sweated too freely; weakened by it. Ordered flesh brush to entire surface, *(bis in die.)* Tongue clean; pulse and abdomen natural. Convalescence established; walking about the house. Soup, mush, &c.

31*st*. Slept well; no night sweat; appetite good; feels well; walked out to business.

Remarks.—This was an ordinary case, where the disease went through its usual progress in a sound and unembarrassed constitution, and is a fair specimen of the treatment. Mr. J. is delicate; temperate; totally unaccustomed to the climate, and had every symptom, from its suddenness and violence, of a severe attack. It promptly yielded to the treatment—every indication having been immediately fulfilled, and though a very large detraction of blood was required to controul the extent of morbid action, yet the patient did not feel incapacitated by it to attend to his professional duties on the fifth day, though the weather was unfavourable. It is hardly too much to say, that under similar circumstances yellow fever would not be more alarming, or more fatal, than intermittent fever. This gentleman had no childish fears about the result to mar the treatment, and had every confidence in the course, which he knew to be new, and met it like a man.

Case IV.—*August 29th.* O. W. aged twenty-one, of a sanguine, bilious temperament, resident here eighteen months, taken with a chill followed by high fever, and pain in head, back, and limbs, &c.; found him in this condition; three hours after covered with blankets, in profuse perspiration; pulse 125, full, bounding, though very compressible; skin hot; eyes red; tongue white, with red, fiery edges. Bled to about sixty ounces before perfect relief; removed blankets, and gave cool emollient drink; injections; baths of mustard to feet, as above, every three hours, and ice to head. In four hours pain in head had returned; reöpened vein, and took sixteen ounces, previously applying six cups to epigastrium, which seemed to develope and give additional vigour to the pulse; it was now reduced, and all the symptoms relieved. *Midnight.* Was called on account of pain in head returning; cups to side and neck relieved it entirely.

30*th.* Found him better, but pulse 106; skin hot, and occasionally dry; had slept pretty well after midnight; tongue getting paler, but seemed loaded posteriorly. Six cups to epigastrium, which gave great relief, and opened the skin and cooled it; ordered a table-spoonful of castor oil. *Afternoon.* Better; oil operated well, though it irritated him, keeping up the pulse to 98, with warmth of skin.

31*st.* Slept well; skin getting cool; pulse 88; bowels and urine good; tongue white and somewhat loaded, edges pale. Continue treatment. *Midday.* Same, but cooler; pulse 74; feels comfortable. *Night.* Same; feels well. Continue.

September 1*st.*—Slept very well; feels some desire for food; pulse 74; skin rather too warm and dryish; head cool; tongue somewhat loaded, and pale on edges; urine and stools natural. Ordered some gruel to drink as before. *Midday.* Pulse 84; skin warmer; feet rather

cool. Ordered mustard bath to feet, and cool emollient enemata. *Night.* Skin too hot; pulse same, though more tense, and some tension of epigastrium, and occasional pain there. Applied five cups to epigastrium.

2d. Slept pretty well, and felt much relief after cupping; pulse 84; skin cool and moist; abdomen soft; stools natural; urine plenty, though high-coloured; no pain; tongue still loaded, hot; some appetite. Treatment continued, but intervals lengthened, and gave arrow-root. *Midday.* Same, though skin too warm and dry, and bowels not sufficiently opened by the enemas. Gave magnesia. *Night.* Medicine operated; stools natural; patient fainted on pot, to which he *would* get up; skin cooler; pulse softer. Continue baths and emollient drinks.

3d. Slept badly; skin too warm and dry; pulse 80; appetite strong; tongue paler, and somewhat loaded, though mouth too dry; some little tension in epigastrium; eyes good colour. Continue emollients; arrow-root gruel, &c. *Midday.* Has slept several times; some hæmorrhage from gums.

4th. Symptoms same; had slept well; skin rather warm and dry, except when he used foot bath; bowels natural; stools formed; felt weak, and nurse gave *sangaree*, and he was a little flighty afterwards. *Midday.* Some colicky sensations and feeling of heartburn. Gave ginger tea; carb. pot., and ordered some very weak sangaree, which relieved it. *Night.* Easy; had talked a little wildly in his naps several times.

5th. Slept part of the night, latter part badly; tongue dark from blood from gums, and some part of night talked wildly; feet rather cool. Blisters to legs, and continue. *Midday.* More wild; had taken too much port-wine sangaree, and some more bleeding from gums and ear, which has been very free; every other symptom, pulse, bowels, urine, and skin good. Ordered gargle of alum; coffee; arrow-root; weak chicken soup. *Evening.* Appeared much better. About *midnight* became more flighty; hæmorrhage from gums had somewhat ceased. Applied morphia to blistered surfaces, which procured some hours repose during afternoon. At night more delirious; urine abundant; no black vomit; commenced sinking, and died during the night.

Remarks.—The immediate cause of the disease in this case may be ascribed to the great imprudence of the use of a cold bath after excessive fatigue during the heat of the day, and after profuse sweating, and on an unacclimated individual. I thought at the time that the sangaree on the 4th had done some injury—acting upon an excitable individual, and increased the predisposition to gastro-cerebral

irritation, to which his temperament rendered him so liable. The bleeding from the gums very much prostrated him, and doubtless arose from a large dose of calomel, (twenty to thirty grains,) which he had taken before I was called. He was much alarmed throughout the disease, which was much against him, though he had every encouragement from devoted friends and a kind nurse. He had been subject to a purulent discharge from his ear from infancy; the hæmorrhage from that surface was not surprising. He was subject also to pain in the head, probably arising from the same cause, which was difficult to keep under during the disease, and rendered the use of stimulants excessively injurious. The termination at last was unlooked for, even with these additional embarrassments, for the constitution was a good one, and the symptoms of disease seemed to have been removed almost as soon as they originated. My after experience, however, convinced me, (and it was a practical point of great importance, giving rise to much reflexion and observation,) that *leeches* would have answered much better than *cupping* on the 1st, from their gradual and continued abstraction of blood; for in this stage of the disease I found afterwards that blood would continue to ooze from leech-bites in proportion to their size, quantity, and condition of the patient, so as to be graduated almost at pleasure; the discharge then has a better effect in counteracting the tendency of morbid action to *concentration* when the organism is near prostrated, forces more sunk, and less able to resist the encroaches of disease. All this was fully verified by subsequent experience.

Case V.—*September 4th.* J. O. J. aged twenty-nine, unacclimated; resident here two years; of a bilio-melancholic temperament; looked and felt very bad, with red, watery eyes, for a week or ten days. On night of 3d had set up with the corpse of a deceased friend, and drank more than usual; felt bad; feverish; restless; pain in forehead, back, and soreness of limbs: called to him on 4th, at 10 A. M. and in addition, found his eyes very red, blood-shot and watery; tongue red and dryish; pulse 124. Bled to fifty ounces before the pains in head and back gave way; pulse reduced in force, not in frequency; ordered six cups to epigastrium, and emollient cataplasm afterwards; hot mustard bath to feet every four hours, and injections of oil, molasses, salt; ice to head. *Midday.* No pain; more comfortable; tongue still dryish. Continue. *Night.* Tongue dry; pulse same; skin moist; no pain; bowels well opened; stools and urine natural. Six cups to epigastrium; continue directions.

5th. Passed a good night; skin and tongue, (though a little red-

dish,) moist, and feels much more comfortable; pulse 100; stools natural. Continue. *Midday.* Slept some; feels better; skin good; eyes better; tongue moist; pulse 80; tendency to cold feet; strength of mustard foot bath increased, cold to head. Continue. *Night.* Same; stools and urine natural. Continue.

6*th.* Slept only partially; feels uncomfortable; soreness of muscles; restlessness; some tension in epigastrium; pulse 84. Ordered sixteen leeches to epigastrium; bath continued, &c. *Midday.* Leeches drew well, and they continued to bleed; feels much better; tongue moist; slept some; pulse 80. Gave him gum Arabic lemonade, which he found very refreshing.

7*th.* Slept well; pulse 72; skin soft and moist; tongue pale and moist; epigastrium soft; bowels open; eyes getting clear. Continue mild drinks; enemas; ordered gruel and arrow-root. *Midday.* Same. Appetite.

8*th.* Doing well; slept well; appetite.

9*th.* Well. Discharged.

Remarks.—Here was a case of great violence, and portending a rapid termination, scarcely at all yielding in its aspect, (except in the violence of the pains,) for about twenty hours, though there had been two copious bleedings, and two cuppings, &c. until the *continued depletion* from the leech-bites confirmed and rendered final what the others had only begun; moistened the parched tongue; cleared the muddy, bloodshot eye; and gave repose to the agitated system.

Case VI.—*September 7th.* M'H. aged twenty-four; a resident fifteen months; of a full, plethoric habit, sanguineous temperament; was taken with severe head-ache, chilliness, and high fever at 2 P. M. on 7th; sometime after four I found him, in addition, with high pulse, of 125; eyes very red and injected, and watery; pains severe in head, back and limbs; in a profuse perspiration, covered with blankets, and skin very hot; pulse not very strong, or of much force, such a pulse as to be expected from such a state of the skin; bled to twenty ounces to relief of pains; ordered iced lemonade, cataplasms, enemas, pediluviæ, as in other cases; in two hours the pains returned; reöpened the vein and drew sixteen ounces to relief. Treatment continued.

8*th.* Passed a pretty good night; fever continues; pulse 116; some pain in head and back; six cups to epigastrium, and two to neck. Continue treatment. *Midday.* The cups relieved the pains mostly; some pain and heat about the head; two cups to side of the neck. *Night.* Pains removed; fever continues; pulse 100; skin soft and moist; heat of head and hands; ordered ice in bladder constantly to head; and wash skin when hot and dry with ice water.

9*th.* Better, and slept well; pulse 92; too hot, though moist; bowels open and natural. Continue treatment. *Midday.* Same; eyes still rather injected. *Night.* Easy; feels better; pulse 84.

10*th.* Better; slept well; tongue almost clean; bowels open; stools natural, as have been throughout; eyes still injected; no pain; skin good. *Evening.* Doing well; pulse 76; slept.

11*th.* Doing well; bowels, skin, natural; some appetite; gave gruel and rice water. *Midday.* Vomited twice some *dark, flaky matter,* like *coffee-grounds;* gave ice to chew. *Night.* Doing well.

12*th.* Doing well; slept well; no nausea; appetite; ordered some very weak chicken water; frictions with the flesh brush to surface twice a day.

14*th.* Eat too much, (a whole squab,) produced feverishness; ordered abstinence; cooling drinks; bath.

15*th.* Well; discharged.

Remarks.—This was also a case of great violence, with strong determination to the head, eyes very much injected, and a disposition to coma, so much so, that though he answered questions intelligibly, yet for the first five days he was scarcely conscious of any thing that passed. It resisted for several days the most determined depletion, but finally yielded to perseverance. The tongue gradually became pale and clean, the bowels were kept sufficiently open, several evacuations per day by injections, without cathartic medicines, and under this mode of treatment it can be easily effected in this way, nine times in ten, and hence the stomach is saved the irritation they never fail to produce, and great advantage is thus gained by it. I had also to contend with a stupid, inattentive nurse, and hot room. This case also proves, as does many others, that a case in which *black vomit* occurred is curable in patients, the energies and capacities of whose stomachs have not been impaired by *over-drugging*, and the recuperative energies of nature not crippled or destroyed.

Case VII.—*September* 10*th.* P. D. aged about thirty-two, bilious temperament, resident eighteen months, taken with chilliness and violent pains in head, back, and limbs; red and glassy eyes, with high fever; pulse full, 120, though not tense, but compressible; tongue white, with red edges; bled to thirty ounces to relief; vomited during the bleeding some bile; ordered cold applications to the head, arms, and surface generally; mustard bath to feet; injections of oil and salt; bath for four hours. *Midday.* Pains returned; fever continues; pulse full, strong, and developed; bled to relief, which now required twenty ounces. Continue treatment. *Night.* Something easier; stools natural.

11*th.* *Passed* a restless night; heat of the surface continues; pulse much weaker; eyes and tongue same; six cups to epigastrium; ice to head; and continue treatment. *Midday.* Easier; skin moist, but little hot; pulse reduced. *Night.* Skin still hot; persevere in cold applications.

12*th.* Passed a restless night; some pain in the head; stools natural; pulse 104; tongue paler; cups to neck and behind the ears. *Midday.* Easier; skin moist; less heat. *Night.* Easier; skin moist, though hands and head too hot; and vomited twice some bile with much mucus; though stools quite natural by injections; iced barley water; and continue treatment.

13*th.* Rested better, though but part of night; head too hot, and some pain over the eyes; eyes too red; pulse 90; three cups behind the ears; the cold applications; injections and bath persevered in. *Midday.* Much better; profuse perspiration; skin reduced to natural temperature; bowels good; some sleep. *Night.* Easy; continue.

14*th.* *Slept* pretty well; feels better, though stomach weak; gave barley water and gruel iced, in small quantities, and order two teaspoons of oil; as tongue pale, but loaded at back and middle. *Midday.* Oil operated several times; feels pretty easy. *Night.* Easy; pulse 84. Continue treatment.

15*th.* Slept well; tongue still pale, though foul; feels better; no appetite; pulse 76; continue. *Midday.* Better; walked across the floor; some desire for light nourishment; gave arrow-root, and continue directions at longer intervals.

16*th.* Slept well; feels much better; tongue clean; appetite; pulse 76; ordered chicken water. *Midday.* Walking about; better.

17*th.* Doing well; eyes and skin tinged of a yellow hue, and some symptoms of jaundice; stools light-coloured. Allowed light food.

18*th.* Doing well; had slept well. *Night.* Convalescent; discharged.

Remarks.—This is the only case which exhibited *bilious* symptoms, several times vomiting bile and evincing much gastric *as well as* hepatic irritability throughout, and hence the obstinacy of the febrile symptoms, demanding much local depletion to remove them; the evacuations from the bowels were natural throughout, no mercury was exhibited, there was not presumed to be any indication for it, having no faith in the *regulating power* of mercury, and believing it a specific *stimulant* to the liver. I saw no indication for its use, when there was already *an overflow of its secretion.* In bilious fevers I had often seen jaundice and torpid livers follow the profuse or long-continued use of mercury. It is to be hoped that correct observa-

tion, enlightened by proper experience, will be substituted for a defective theory and worse practice.

Case VIII.—*September 14th.* G. L. B. aged twenty, of a full bilious temperament, nineteen months resident. Taken in night with chill, and very violent pains in head, and calves of legs; high fever followed, with thirst; red, injected eyes; pulse 120, full, and very compressible and soft; tongue white, with red edges. Saw him at 11 o'clock, and bled him while sitting until fainting, though pain in the head not relieved; laid him down, and after reäction fully returned, continued the bleeding until entire relief, which required thirty ounces, and ordered mucilaginous drinks and fomentations to abdomen, injections and mustard pediluvium every four hours, &c. 5 *P. M.* Was removed a few squares in a carriage, and pains soon returned; pulse stronger; reöpened vein and bled to relief, which now required twenty ounces, and prescribed as before, and cold to the head.

15*th.* Slept pretty well; pulse 116; skin cool; and some pain in head; stools good; tongue white; six cups to epigastrium, which relieved head, and he felt better. *Midday.* Easier; skin cool; pulse 84. *Night.* In sitting up to take foot bath, against directions, (for in this disease they are so liable to faint in the erect position, and it is so hazardous in a prostrated organism,) he nearly fainted; head afterwards affected; delirium and fever followed; ordered ice to head, six cups to epigastrium, and two behind the ears, which gave great relief; skin became cool and moist.

16*th.* Slept but little; talked wildly, occasionally; pulse 100; skin too hot; tongue white; bowels natural; but little thirst; answers intelligibly; three cups behind the ears; ice to head. *Midday.* Feels much easier; skin cool and moist; bowels good; slept some; seems sensible; continue. *Night.* Head too hot; feels very well, though the nurse says he talks to himself; three cups behind the ears; no pediluvium, the last night it was too hot and strong, and acted as a stimulant instead of a revulsive.

17*th.* Slept pretty well; eyes better; tongue paler on edges, though still white on surface; pulse 88; skin moist and heat reduced. *Midday.* Doing well; pulse 84; skin and tongue same.

18*th.* Slept well; feels much better; expression good; tongue more flabby; the milky-whitish coat nearly removed, and a paleness supplied its place. *Evening.* Same; light nourishment allowed.

19*th.* Slept well; pulse 76; skin, tongue, and bowels good; ordered light soup; egg during day. *Evening.* Some heat of the skin; pulse 88; head-ache; eat too much. Ordered orange-flower syrup and water

iced in tea-spoonful, at a time, and often; cold to the head and surface; injections; foot bath, and abstinence.

20*th.* Slept well; feels well; pulse and skin very good; tongue pale and shrunk on edges; some whitish fur. Ordered arrow-root; gruel; barley water; frictions to surface; had a natural stool. Discharged.

Remarks.—This was a case of great severity; the patient was conscious of but little that passed the first four or five days. A kind of stupor steeped his senses; there existed great tendency to affection of the head, only to be controlled by a rigid and extensive use of topical depletion and refrigerants; we could not produce revulsion upon the stomach and bowels—for the cerebral irritation was but sympathetic of a primary irritation *there*, and could not safely induce it on the extremities to any extent, for there was too much heat; hence then the local, depletory treatment was the safest and most direct—in fact, the *only* admissible treatment.

Case IX.—*September* 24*th.* T. P. aged about thirty-three, of a full, plethoric, corpulent habit, and sanguineous temperament, resident several years, (except summers,) was taken with a chill on 23d, followed by fever, &c.; saw him on 24th, at 6 o'clock, A. M., and found him with fever; hot, dry skin; pulse 110; head-ache, and occasionally delirious; tongue white, with red edges, and had spent a very bad night. Bled him to relief, which required twenty ounces, and ordered ice lemonade; injections; baths, &c. (as usual.)

25*th.* Slept but partially, though feels better; pulse 98; tongue same; some head-ache; head and skin generally hot, though soft; bowels open. Continue directions. *Midday.* Same; rather more feverish, and increase of pain in head. Ordered cups to epigastrium and neck; continue other directions.

26*th.* Passed a bad night; slept but little. I now understood that the cups yesterday drew but little blood; felt hot and feverish; skin dry. Ordered fifteen leeches to epigastrium, and two cups behind ears. *Evening.* The leeches and cups drew a large quantity of blood, and gave great relief; he soon fell into a gentle sleep and free perspiration, and now feels much better; eyes look clearer, and expression good; had two natural stools; pulse 88. 10 *P. M.* Was called to him; had at 9 o'clock suddenly and without any premonitory symptom, except occasional belching of wind during the day, and huskiness about the throat, ejected a quantity of *black vomit* from the stomach, and *thrown* to *a distance without straining* or *effort*, (the usual peculiar circumstances attending it;) had been restless, and had just taken

the foot bath: it alarmed him very much. Ordered him to chew and swallow small pieces of ice, and to take iced gum water in small quantities, and to be perfectly still, &c.

27th. Was awake to 3 or 4 o'clock, A. M. from mental uneasiness—then slept pretty well a few hours; had a black liquid stool, about a pint; pulse 92; much agitation of mind; frequent sighing; skin soft; head easy; leech-bites still continue to bleed freely. Ordered continuance of advice of last night. *Midday.* Slept very easily; feels better, and more composed. Dr. Rogers, (one of our oldest and most experienced practitioners,) visited him to day. My views were concurred in. Continue treatment. *Evening.* Feels easy; slept; skin soft and moist; pulse 88; head easy; tongue paler, injection of flax-seed tea. Continue former directions, and syrup of gum Arabic for drink.

28th. Slept well; pulse 84; skin and head easy, soft and moist; feels some appetite: the injection operated twice—the first consisted of only a little dark-coloured water—the second was a good *mushy, bilious stool;* feels much better; eyes and skin somewhat tinged; vomited this morning some rancid lemonade, which had been imprudently given him, and over-quantity of drinks taken during the night. Ordered arrow-root, &c. *Midday.* Much the same; doing very well. Dr. Rogers left the case, not deeming further attendance requisite.

29th. Passed a pretty good night, and feels much better; skin good; pulse 80; considerable appetite; desired claret and water, refused him; asked for soup; ordered some *very weak chicken water* made of a very young fowl, of which he was to take a very small portion; stools good; skin yellowish. *Evening.* Found skin too warm; pulse 92; tongue reddish along the edges; talks a little wildly; *soup* made too rich, and *took three times as much as allowed.* Ordered cooling drinks and ice to head; injections, and mustard bath to feet, &c.

30th. Passed a bad night; restless and delirious; tongue red; pulse 102, small and rather soft; extremities apt to become cold, and spleen enlarged. Ordered a blister to back, to spleen, and calves of legs; injection of oil every four hours; iced lemonade; ice to head; sinapisms to feet and hands occasionally. *Midday.* Much the same; slept a little; answers questions intelligibly, though talks wildly to himself; skin moist; pulse 108; eyes and skin very yellow, evidently and deeply jaundiced. *Night.* Same; passed a good stool: dozes occasionally.

October 1st.—Slept but little last night; pulse 108, and soft; edges of tongue very red, white on surface; abdomen rather distended.

Give two tea-spoonfuls of castor oil, with orders to repeat every three hours till passage. Continue treatment.

2*d.* Condition same; very deeply jaundiced; bowels free and somewhat bilious; continues delirious, and tendency to coma.

3*d.* Unaltered. Treatment continued. Died at night.

Remarks.—In this case the first twelve hours was lost, which was very important. On the 25th the local detractions of blood by the cups was very imperfect, therefore but little benefit resulted from them: notwithstanding these serious impediments, and the great alarm he felt throughout the case, here is an instance of a free liver, having *black vomit* and black *inky stools* on *the fourth day—surviving:* and it must be evident, from precedent and subsequent circumstances, that the *condition to form it* must have been made *previous* to the application of the leeches, and the *alteration must be ascribed to them*, it having been long proved by dissections and observations of our distinguished countryman, Dr. Physick, in 1793, and corroborated by multiplied experience since, that black vomit depends upon a *secretory irritation* of the mucous membrane of the stomach, to be prevented by subduction of its excitement, as has been proved to me at least three times during the present epidemic; but this case not only *survived it*, but the entire condition was changed—tone of the stomach and bowels, and *their secretions*, in a great measure, restored; *bilious* and *natural stools* supervening, and in the opinion of one of the veterans of the profession, evidently getting over it. This continued several days, with constant proofs of amendment, and the *relapse* on the 29th, (for no one could call it any thing else,) was unquestionably produced by the *soup*, overtasking the enfeebled digestive power of an important organ—producing primarily gastro-duodenitis, and as a consequence, jaundice, and then cerebritis, and at a period when it was no longer safe to attempt to reduce local action by local depletion, with diminished power and prostrated forces.

These are all the cases my limits will permit me to set forth in detail. A synopsis of the whole is to be found in the following tables, which will fully sustain the claim to successful treatment.

Analysis of the principal Symptoms observed in Yellow Fever during the Epidemic at New Orleans in 1833, *with the Treatment, Results, &c.*

SYMPTOMS.

Epigastrium.		Vomiting.	Hiccough.	Thirst and desire for cold drinks.	Period of Return of Appetite.					
Painful	Tense.				2d day.	3d day.	4th day.	5th day.	6th day.	8th day.
17	Nearly all.	Nearly all.*	4	Nearly all.	1	7	14	14	7	2

* Four had black vomit, of whom two recovered.

SYMPTOMS.

Tongue.		*Eyes.*		*Expression.*			*Feces.*			*Intestines.*		*Skin.*		*Urine.*	*Uterine.*		
Dry and red.	White, with red edges.	Yellowish.	Muddy, glassy, and injected.	Fierce.	Dull and stupid.	Frightful.	Despairing.	Indifferent.	Anxious.	Natural.	Natural throughout.	Bilious.	Disturbed by Medicine.	Constipation.	Diarrhœa.	Natural colour.	Yellowish.	Suppressed.	High-coloured.	Pregnant.	Nursing.	Appearance of menses during the attack.
6	Remaining No.	10	In all.	1	3	1	3	3	55	9	38	4	11	2	4	59	6	2*	Almost all.	2†	5†	2†

* In one of these the suppression was relieved on the third day, and the patient recovered. † All these recovered.

SYMPTOMS.

Sleep.			*Pains.*				
Bad.	Partial.	Good.	Head.	Back.	Limbs.	Great muscular soreness.	Delirious.
35	6	10	66	60	60	1	10

GENERAL HISTORY.

Attack.		*Period of Cessation of Fever.*			*Period of Discharge.*												
Sudden, without premonition.	With chill.	1st day.	2d day.	3d day.	2d day.	3d day.	4th day.	5th day.	6th day.	7th day.	8th day.	9th day.	10th day.	11th day.	15th day.	16th day.	Longer periods.
3	26	5	38	10	4	10	14	14	10	4	4	2	2	1	1	1	1

TREATMENT.

BLOOD-LETTING.										OPENING REMEDIES.	
General.			*Local.*								
Once.	Twice.	Thrice.	Once.	Twice.	Thrice.	4 times.	5 times.	6 times.	7 times.	9 times.	Laxatives; generally oil.	Enemata.
33	12	1	19	13	3	8	1	1	3	1	23	All.

The other remedies employed, were baths, hot and cold; cataplasms, ice, lemonade, and emollient drinks.

RESULTS.

Recovered, 69. Died, 6; of these, 1 died from imprudent and unauthorized use of the glyster-pipe by the nurse, after every appearance of recovery, see Case I. 1 died from hæmorrhage from the gums, in consequence of having taken a large dose of calomel before I was called, see Case IV. 1 died from want of proper attendance—no nurse; room over a nine-pin alley, the noise from which prevented his sleeping at a critical time. 1 from relapse, brought on by strong soup taken on the eighth day, see Case IX.

New Orleans, June, 1834.

ART. III. *Report of Cases treated in the Pennsylvania Hospital.* By T. S. KIRKBRIDE, M. D. one of the Resident Physicians.

CASE I. *Fracture of the Skull with Depression.*—Thomas Wilson, æt. 46, labourer, received a blow upon the right side of his head from a heavy hand-spike, on the 1st of October, 1833, at 1 P. M. He was brought to the hospital one hour afterwards. When admitted was partially sensible, but unable to answer questions; skin cool; pulse weak; pupil contracted; had vomiting. The head was shaved, and a large effusion of blood found to exist under the scalp; a fracture was also detected in right parietal bone, with some depression. Sinapisms applied to extremities; external heat, and stimulating enema. At 3½ P. M. reäction commenced very slowly; soon after seemed disposed to sink into a state of insensibility, although at times very restless, and has spasmodic motions of the arms; temperature still cool. Cold applied to head; warmth continued to feet. At 5 P. M. reäction was so fully established, and his pulse had acquired so much strength that a vein was opened in his arm, and about ℥x. of blood taken: was more quiet for a short time, but the state of insensibility into which he had for some time been falling continued to increase, and at 6½ P. M. he had stertorous breathing, with a full and labouring pulse; pupil still slightly contracted. V. S. ℥xvj., producing little effect on pulse or respiration.

He was seen by Dr. BARTON at 7 o'clock, and a consultation of the surgeons of the house called immediately, but while preparations were making for operating, his respiration became still more laborious, pulse sank so as not to be felt at wrist, and he died at 7½ P. M.

Autopsy, fifteen hours after death.—Head. No external wound. Upon making an incision into the scalp, a large quantity of effused blood was found between it and the cranium. A quadrangular portion of bone nearly three inches in diameter, depressed, consisting principally of the anterior and inner part of the right parietal bone, and extending across the sagittal suture half an inch on the left; from this a fracture extended about two inches and a half into the frontal bone; a fissure separated at upper part one-fourth of an inch, extended over the left side of head, and could be traced to the base of the cranium. A fracture also ran posteriorly from the depressed portion of bone, commencing half an inch to the right of the sagittal suture, passing obliquely across it, till it met the lambdoidal. Three openings existed in the dura mater, one of which was large enough to ad-

mit the introduction of a finger; longitudinal sinus opened by a spicula of bone. About one gill of blood below dura mater; copious effusion of blood into the ventricles, and a large quantity, liquid and coagulated, at the base of the brain. Total quantity of blood effused beneath the cranium, ℥xiv. On the left side of longitudinal sinus, and near the point at which the opening existed, the cerebrum was reduced to a soft mass to the depth of an inch and a quarter; other parts firm.

Other organs not examined.

Case II. *Fracture of the Skull with Depression.*—Thomas Fox, æt. 30, labourer; admitted April 3d, 1834. While engaged in blasting rocks, a few hours before, he was injured by an explosion; he was alone, and is unable to state the cause of the accident or attending circumstances; he was stunned, and on recovering walked nearly half a mile before he received assistance; he also states that after he became sensible, was chilly and had vomiting.

A large portion of the scalp was turned off, and a portion of skull, about one and a half inches square, denuded of pericranium, on the inferior and middle part of right parietal bone; a fracture was discovered at this part one inch in extent, into which a piece of leather, apparently a part of the lining of his hat, had been driven; there was also a small portion of the bone slightly depressed, circular, and nearly one-fourth of an inch in diameter, and a cut in the forehead extending to the bone. The leather was removed from fissure, and as he complained of severe pain, Tr. opii, gtt. xl. was administered; wounded parts of scalp kept in apposition by simple dressings.

5th. Has slight fever, but little pain in head; purge given yesterday operated freely. ℞. Ant. tartar. gr. ij.; Aquæ, ℥viij. Ft. sol. S. ℥ss. every two hours; low diet.

6th. Less tension of scalp; considerable ecchymosis about the face; upper part of scalp united; suppuration commencing; slight fever; head-ache slight; pupils natural; bowels open; pulse 84; slept well. Poultice scalp; continue sol. ant. tart.

7th. Last evening patient was restless; complained of pain in head; fever; pulse full and rather firm; wild expression of the eye; he was bled ℥xv. which induced faintness; the solution of antimony has been suspended, having produced vomiting. Better this morning; pulse 84, soft; less thirst; skin natural temperature. ℞. Mist. neutral, ℥ss. every two hours.

12th. Large purulent discharge from scalp; no head-ache; pulse rather weak; he sleeps well, and has improved diet.

17th. No unpleasant symptoms; poultice continued to scalp.

25*th.* For a day or two past has complained of head-ache, and inability to sleep at night; pulse rather quick but weak; tongue natural; no increased heat of surface; wounds of scalp have healed, excepting over exposed bone. Apply blister on back of neck, and keep it open with dressings of savin ointment.

30*th.* Head-ache much diminished; sleeps better; pulse 80, soft and regular; bowels kept open with sulph. magnes.

May 8*th.*—Blister kept open on back of neck; free discharge from scalp; no head-ache, or other unfavourable symptom.

18*th.* More tumefaction of scalp; pain externally; free discharge of pus; bone becoming loose. Continue poultice.

29*th.* A portion of cranium, including both tables, is nearly detached; patient occasionally has slight head-ache, which is generally removed by a brisk purge.

31*st.* The detached portion of cranium, about one inch square, was removed to-day, by cutting down upon the parts; dura mater beneath healthy; patient has no head-ache; pulse slow and soft; sleeps well.

June 1*st.*—Head-ache last night and slight fever; tongue furred. Ordered purge and mustard foot bath.

2*d.* No fever, nor head-ache; wound granulating.

20*th.* Patient has had no head-ache since last report; wound nearly healed; well in every other respect.

31*st.* Discharged.

Case III. *Fracture of the Skull.*—William Northern, æt. 47, labourer; admitted April 23d, 1834, at 7 P. M. Is of intemperate habits; has generally enjoyed good health; was struck on the head by the crank of a crane, at which he was employed hoisting logs. about one hour previous to his admission into the hospital. The blow was received on the right side of the head, at the anterior inferior part of the os frontis, immediately over the orbit of the eye; was insensible for a few minutes after the accident; had no vomiting. When admitted, pulse was feeble and frequent; skin cool; rationality good; has a cut four and a half inches in length in scalp, which is turned off, exposing a considerable portion of the cranium, partly denuded of periosteum; a fracture by which the upper part of the orbit was forced down over the eye; a small, loose fragment was removed; there is also a cut half an inch long at external canthus, from which there is slight hæmorrhage; eye uninjured. The depressed portion of bone was elevated to nearly its natural position, and light dressings applied; patient complained of no pain, and rested well during the night.

24*th.* Without pain; pulse slow and regular, rather weak; tempera-

ture of surface natural; pupil not contracted; purge with magnes. sulph.; low diet.

25th, 8 *A. M.* Complains of chilliness; pulse feeble; pupil natural; medicine taken yesterday has not operated; increased restlessness. Repeat magnes. sulph.; hot applications to extremities. 7 P. M. Patient suddenly became convulsed and comatose at 1½ P. M.; pulse full and frequent; pupil nearly natural; strong flexion of arm on uninjured side during the attack. He was bled ℥xx., and had cups applied to back of head, after which became sensible. At this time very restless; inclined to sleep; articulation indistinct; easily roused; pupils slightly dilated; left eye drawn strongly to internal canthus; resistance to efforts of extension of arms, but doubtful whether voluntary or involuntary; pulse frequent and weak; skin warm; bowels have been freely open. ℞. Ant. tart. gr. j.; Aquæ, ℥vj. Ft. sol. S. ℥ss. every hour; stimulating pediluvia. 11 P. M. Worse; pulse feeble, frequent, and irregular; restless; tossing about the bed; says he has no pain; respiration slightly stertorous; left eye fixed at internal canthus; right in natural position; answers questions, but not distinctly. Ordered cups to head; sinapisms to legs; continue sol. ant. tart.

26th, 9 *A. M.* Low, muttering delirium; increased restlessness; eyes as last reported, with more dilatation of pupil, and complete insensibility to light; surface of body, natural temperature. The separated fragments of bone were this morning removed, requiring only detachment from a small portion of scalp. Cold applications to head, and heat to extremities; respiration became more laborious; extremities cold; pulse imperceptible. Death at 4 P. M.

Autopsy, fifteen hours after death.—Exterior. Rigidity marked; fine muscular development; tumefaction of right wrist; irregular ecchymosis and tumefaction of right side of face; wound four and a half inches long, extending from near internal canthus, upwards and outwards; flap raised, exposing frontal bone for a distance of three inches; rough edge of bone extending from inner part of orbitar ridge, half an inch upwards and one inch outward, and thence along middle of orbitar plate, including space from which bone was removed, filled up with dark coagulum of blood.

Head. Dura mater opposite the seat of fracture, covered with a thick layer of dark coagulated blood, adhering strongly to the membrane, in the midst of which are two perforations, largest would admit a crow-quill; sinus empty. Dura mater much injected externally. Arachnoid, bright injection on side next to dura mater; great cavity contains a purulent cream-like liquid, easily removed by scraping,

and beneath arachnoid the anfractuosities are filled with the same liquid, which may have furnished that in great cavity. Pia mater, bright injection at anterior part and opposite temporal bone; large veins distended with blood. Arachnoid of dura mater, dull colour, semi-opaque; great cavity of arachnoid contains posteriorly about ℥ss. of dark fluid blood. Cortical substance of right side, dark reddish colour; medullary much injected, consistence perfect. On anterior extremity in part corresponding to fracture, are three ecchymoses, largest size of a large pea, not extending beyond cortical substance, which is softened in ecchymosed part; beneath these ecchymoses is another in medullary part, a little larger than the others, with similar diminution of consistence; adjoining parts, as elsewhere, firm, but much injected; ventricles contain ℥ss. of limpid serosity; central parts firm, not injected. *On left side*, cavity of arachnoid contains a little serum, no pus; moderate injection of pia mater; cortical substance, firm, ash colour; medullary much less injected than on right side; cerebellum firm, slightly injected.

Thorax. Strong adhesions on right side, less on left; lungs grayish, dotted with black; no trace of emphysema; no tubercles. Lower lobe of right more engorged than rest, friable; two calcareous, soft concretions near root of lower lobe, encysted. Bronchi not injected, polished, not dilated. *Heart*, medium size, pale, flaccid; coagulum in each cavity fibrinous; slight cartilaginous concretions in semilunar valves of aorta; some cartilaginous patches beneath lining membrane of aorta at the arch.

Abdomen.—Stomach. Contains half a pint of greenish and grumous liquid; great cul-de-sac torn in detaching it from spleen; mucous membrane scarcely exists in whole posterior face, especially of great cul-de-sac; other coats of consistence of half coagulated glue; transparent appearance. Anterior face, pale, dirty-yellow; consistence natural.—*Small intestines* contain some yellowish mucus; mucous membrane transparent; good consistence; less near extremity of ileum. Glands of Peyer reticulated, pale, a little elevated. Isolated follicles numerous in last two feet, but scarcely visible; mesenteric glands firm.—*Large intestine* empty; mucous membrane, pale, consistent.—*Spleen* reddish-brown, seven inches by four; soft, grumous.—*Liver* pale brown, larger than natural; no tubercles; gall-bladder distended.—*Kidneys* rather pale, firm, not granulated.

Case IV. *Fracture of the Skull, &c.*—Stephen James, æt. 50, a respectable coloured man, residing in the lower part of the city, was severely injured during the riot on 13th of August, 1834, about 10 P. M. He was dragged from his bed into an adjoining yard, beaten and

left in a state of insensibility—owing to the state of alarm in his family he received no medical assistance until the following morning; he was reported to have lost a large quantity of blood during the night; had vomiting in morning; some blood in discharges from stomach. He is robust, temperate in his habits, and has always enjoyed good health.

14*th.* Admitted into the hospital at 7 A. M. He has several incisions on head, principally on superior and posterior part, extending down to and exposing a portion of cranium denuded of periosteum; parts are much swollen; no fracture or depression detected. Skin is cool and moist; pulse 124, feeble; pupils natural, with little sensibility to light; has not spoken since he was injured. Sinapisms to extremities; stimulating enema; and heat to surface generally. 10 A. M. Respiration slightly stertorous; pupils natural; pulse 120, feeble; restless; constant moaning; no vomiting. 1 P. M. Stertorous breathing increased; pulse 112, rather fuller, with an occasional intermission; skin warmer; more sensibility of pupil, a little contracted; some subsultus; restraint necessary to keep him in bed; has not been able to swallow since admission. 7 P. M. Skin hot; pulse 140, still feeble; no rigidity of extremities; swallows small portions of liquid with extreme difficulty; pupils a little dilated, do not contract when exposed to a strong light; respiration stertorous; tossing of the arms; no subsultus.

15*th*, 8 *A. M.* Very restless during the night; bowels freely open after enema last evening; appears to recognise his friends, but is unable to speak; no improvement in deglutition; pulse 136, some irregularity; skin warm; coughs occasionally, and discharges some blood; pupils nearly natural; less stertor.

16*th.* More quiet during the night; pulse is irregular and intermittent; pupils slightly contracted; strabismus; is able to swallow liquids.

17*th.* Very restless; no sleep; skin cool; pulse feeble and irregular; strabismus slight; deglutition improved.

20*th.* Since last report there has been some reäction, and he now swallows with little difficulty; speaks, but indistinctly; pulse fuller; pupils natural.

22*d.* Pulse again feeble; skin cool; restless; no rigidity; slight contraction of pupils.

23*d.* Pulse 132, very weak; skin cool; pupils more strongly contracted; restless; tossing his arms; can scarce articulate; during efforts to speak the mouth is drawn strongly to the right side.

24*th.* Pulse 140, irregular, excessively weak; extremities cold; inability to speak or swallow; rigidity of both arms and both legs,

nearly equal; slight distortion of mouth, variable. Death at 11 P. M.

Autopsy, 10 *hours after death.—Exterior.* Rigidity complete; slight emaciation; cuticle removed on legs and chest by sinapisms.

Head. On exterior, scalp offers at top of forehead, two whitish lines an inch long, one of which is easily separated by the finger, (cicatrices of two of the wounds;) on cranium are eight other incisions not united, from one to two inches in length; three of these incisions unite near the summit of occiput; another of them about two inches long is in the long diameter of skull on right temporal bone. The periosteum is detached beneath one of the incisions on summit of frontal bone, near middle line, in length of one inch and a few lines broad. Cellular tissue on whole ecchymosed and tumefied. On removing periosteum no depression discovered, but a long fissure, extending in a curved line from one temporal bone to the other. Upon removing the cranium a deposit of blood an inch and a half in diameter, and more than a line thick, was visible near the base of squamous portion of temporal bone; a line was traced by this same deposit on the outer surface of dura mater, irregular, but in most places several lines wide to the left side, where another deposit of blood, a little less than that on right, and anterior to it was found; dura mater not cut; fracture extended through both tables of the skull, which was of moderate thickness. *Arachnoid* containing about ℥iij. limpid serum, part of which escaped on sawing the skull; *pia mater* infiltrated with serum, which caused an apparent thickness of the membranes, removed by pressing out the liquid; glands of Pacchioni very distinct, large as wheat grains. Beneath each temporal bone in spot corresponding to coagulum, exterior to dura mater, is a collection of black blood in the meshes of pia mater between the convolutions, larger in the right than left; on detaching the pia mater on right side, the finger passed into a softened portion of the brain; this softening contained in its centre a black coagulum, half an inch in diameter, surrounded by cerebral substance, reddish, and reduced to a pulpy state, with flakes of brain, but not distinct pus; the medullary substance surrounded by it was injected, of a slightly yellowish tinge; no trace of false membrane around this softening, which is circumscribed by the firm, cerebral substance. On the left side a coagulum and softening precisely similar to that on right, except that the left was not larger than a nutmeg, while that on the right was larger than a pigeon's egg. Substance of brain elsewhere firm. Ventricles containing ℥ij. limpid serosity; choroid plexus pale. Base of brain contained ℥iv. of serum; substance at base, cerebellum and pons firm;

moderate injection; longitudinal sinus empty; lateral containing liquid blood.—*Medulla spinalis.* Abundant serosity in arachnoid; substance firm, not injected.

Thorax.—Right lung. No adhesions except at posterior part of inferior lobe, which is covered with a layer of yellow, concrete lymph, one line thick, easily detached in long strips. At summit of lung are several tuberculous masses, size of large pea to that of hazelnut, softened, contained in cartilaginous cysts; gray granulations around these masses; in middle lobe are also a few scattered tubercles, size of a large pea, softened; none in lower lobe, which is aerated; vesicles not evidently enlarged; bronchia pale.—*Left lung.* No tubercles nor granulations; slight adhesions anteriorly; bronchi pale.—*Heart.* Moderate size; large coagulum in right ventricle; valves healthy; little serosity.

Abdomen.—Stomach contracted; mucous membrane dark slate colour, less intense in great cul-de-sac than elsewhere; moderately fine arborizations along small curvature. In great curvature are two rounded ulcerations, largest four lines in diameter, smallest two, pale, elevated edges, gray cellular bottom; consistence of membrane good.—*Small intestines* containing a greenish-yellow mucus; membrane in upper three-fourths very pale slate colour, not injected, firm. Glands of Peyer rare, pale, reticulated, only seen near the valve. Glands of Brunner rather numerous in last foot; no central point.—*Mesenteric glands* small, gray.—*Large intestine* in cœcum; membrane grayish, thin, strips fragile, three or four lines; rest of extent, membrane grayish, strips eight to twelve lines; contents liquid; glands not visible.—*Liver.* Dark brown, not broken, gorged with blood; a hard, whitish, rounded mass near the sharp edge without defined cyst; indistinct fibres, creaking under the scalpel; bile abundant.—*Spleen.* Very small; wrinkled two and a half inches by two; not tuberculous. Kidneys brown colour; firm.

For notes of the following case I am indebted to my friend and colleague, Dr. Gerhard.

Case V. *Phrenitis, following an Injury of the Head.*—John Gallagher, a child, twelve years old, was playing on the roof of a three-storied house, from which he fell, on the afternoon of the 10th of August, 1834. At his entrance into the hospital, had a large ecchymosis with tumefaction of the eyelids of the right eye and parts covering the malar bone and temporal fossa; a fracture existed in both bones of both forearms about two inches from the wrist. Intellect clear, but much agitation, and complains of pain in the arms, which were dressed by the application of splints and compress. Until 15th, slight

increase of pulse and heat of skin; great restlessness; complains of pain in arms, constantly throwing them about; intelligence perfect, but very irritable, and great sensibility to impressions.

On 15th, after sleeping quietly, ($\frac{3}{8}$ths gr. of morphia having been given during preceding day,) had great increase of heat, no chill remarked, but extreme stupor, lying without the least attention to surrounding impressions. At 8 P. M. found him in the following state: decubitus dorsal; eyes closed; arms lying by his side, not much tossing about; skin intensely hot; face flushed; pupils much and equally dilated, little contraction on exposure to light; sensibility generally augmented; cries on moving the limbs; sight appears nearly perfect; hearing good; quickly relapses into the state of stupor when aroused; pulse 140, quick, regular; respiration regular, 28 to 30; no cough; constipation. ℞. Iced water to head; Pulv. seidlitz, No. ij.

16*th.* Very restless during night; frequent cries as if in pain, alternating with stupor; some dilatation of pupils, and increase of sensibility; pulse 140, quick; head strongly bent backwards, cries if attempts are made to replace it; thirst great; no requests *for food;* face flushed; no rigidity; violent delirium, or during night cries; gives intelligible answers to questions if loud, and then relapses into a state of coma. V. S. $\overline{3}$xviij. After bleeding face pale; less violent delirium; pulse much more feeble.

In evening pulse less feeble than in morning; some delirium; skin again hot. Twenty leeches behind ears; blister over scalp.

During the three days, 17th, 18th, and 19th, the following symptoms were observed. Delirium, quick, irregular, and noisy, with sometimes cries. On 19th, coma; pupils dilated during whole attack; not sensible to light on 18th or 19th. Strabismus 17th, 18th, and 19th. The inclination of the head backwards increased in strength, but there was no evident rigidity of the limbs; no distortion of the features, unless slightly puffing of the mouth; countenance anxious, flushed; no replies to questions after 18th; constipation relieved by enemata or Seidlitz powders; no vomiting. Deglutition impossible after 18th; meteorism of abdomen on 18th and 19th. Complained of pain in belly on 18th; pulse regular, very frequent, from 120 to 180.

Death 20th, at 9 A. M.

Autopsy, eight hours after death.—Dura mater distended; long coagulum in sinus; fracture with depression of both tables of os frontis on right side, just above the external angle of orbit; fracture extends through the orbitar plate in its whole breadth; just above this fracture the dura mater is torn, and a coagulum of black blood an inch in breadth exists. Summit of convolutions compressed; arachnoid

dry; no serosity in pia mater, which is highly injected in its small vessels only; on the left side the pia mater presents a number of yellowish spots in the line of the vessels, not broader than from one to one and a half lines, and detached with the membrane; cortical substance gray-rosy; medullary moderately injected; consistence perfect; ventricles distended with about ℥iv. of troubled serosity; central parts diffluent; walls of ventricles softened to creamy consistence in a depth of from one and a half to three lines, white, surrounding injection; choroid plexus pale.—*Base.* A layer of greenish-yellow lymph, from three-fourths to one and a half lines in thickness, covered the pons, the optic and olfactory nerves, the medulla oblongata, the fissures of Sylvius, and the lateral fissures, extending through the fissures of Sylvius to the upper part of the hemisphere, and existing in a slight degree on the inferior surface of the cerebellum. This substance was beneath the arachnoid, which has a glutinous feel, and contains hardly ℥ss. of serosity. The substance had the following characters: inodorous, greenish-yellow, rather more consistence than pus, but easily broken by slight pressure without trace of granulations or other hard bodies. The cerebral substance of the base was of the natural consistence, except just below the substance described, where it was whitish and pulpy. Pons varolii and cerebellum firm.

Liver not fractured; gorged with blood; firm.

Other organs not examined.

Case VI. *Wound of the Elbow-joint with Injured Spine.*—Thomas Paul, æt. 24, seaman; admitted April 26th, 1834. Is remarkably robust; has enjoyed good health, never had serious disease; clear of cough, &c.; lives freely. A short time previous to admission, fell from the foretop of a vessel, striking his arm upon a windlass, and producing a lacerated wound, communicating with the elbow-joint; a wound of scalp, two and a half inches long, and exposing a small portion of cranium and a severe contusion over the lumbar vertebra. He was insensible for a few minutes, but when he entered the hospital, had recovered entirely from that state; his pulse was 88, regular; skin natural; sensibility perfect; moved his extremities without difficulty. His arm was placed on a rectangular splint, with simple dressings to it and head.

27*th.* Has some fever; restlessness during the night, tongue white and furred, bowels not opened; suffers much pain. Ordered eight cups to loins; Magnes. sulph. ℥j.; Mist. neutral, ℥ss. every two hours; low diet.

28*th.* Less pain, but does not appear to move his lower extremi-

ties with the same facility as yesterday; wound of elbow very painful; fever moderate; bowels freely open. Repeat cups to spine; poultice to arm.

29*th.* Sickness of stomach; swelling of arm, and indications of erysipelas; complains that he "cannot feel his legs," and is utterly unable to move them. Mist. efferves.; 50 leeches to arm.

30*th.* Paralysis of lower extremities complete; moves the uninjured arm, but to-day for the first time has complained of a numbness about it, and of its being "cramped;" inflammation about the joint unabated; less vomiting; head-ache. Treatment continued.

May 1*st.*—Was called to patient very early this morning; during the night his respiration had become seriously affected; when I saw him was panting and complaining that he "had no breath;" exceedingly anxious countenance; scarce able to articulate; pulse feeble and frequent; skin cool, covered with perspiration. Sinapisms were directed, and heat applied externally, but without effect; pulse gradually became imperceptible; body cold, bathed with perspiration; respiration more laborious. Death, 9 A. M.

Autopsy, twenty-six hours after death.—Exterior. Fine muscular development; ecchymosis of back; rigidity of lower extremities.

Head. Much blood on exterior of dura mater; longitudinal sinus full of half-coagulated blood; pia mater rather injected; large veins slightly distended. Arachnoid moist; no infiltration; easily detached. Glands of Pacchioni small. Cortical substance gray-ash; medullary rather more injected than usual, firm; central parts firm, white. Ventricles containing ℥ss. of serum. Cerebellum firm, moderately injected.

Spine. Muscles opposite lower dorsal and lumbar vertebræ softened; fibres scarcely perceptible, infiltrated with blood and purulent liquid; no fracture of processes. On exterior of dura mater is a layer of half-coagulated dark blood, extending throughout all the dorsal and lumbar vertebræ. Arachnoid containing a moderate quantity of serum; pia mater slightly injected. Consistence of medulla good, except about lower part of dorsal vertebræ, in extent of one and a half inches, and in the last inch, where the medullary portion is a little yellowish, and r ter less consistent than elsewhere.

Thorax. No adhesions; pleura contains ℥j. of serosity.—*Lungs* gorged with blood, especially lower lobes; dark red externally and internally; no trace of hepatization or tubercles. Bronchi transparent, containing a little serum; bronchial glands firm, dark.—*Heart.* Not adherent, firm, medium size; aorta filled with blood, of dark vinous colour.

Abdomen.—Stomach. Containing ℥ij. of greenish liquid of acid odour; mucous membrane of light slate colour, especially in pyloric half; some large arborizations near cardia; in posterior half of great cul-de-sac thickness a little diminished, (with paleness,) in irregular spots, and general diminution of consistence of all the coats; elsewhere consistence natural.—*Duodenum* grayish, not injected.—*Small intestine* not distended; contains a yellowish liquid; slate colour or pale externally; mucous membrane without the least injection, throughout of a pale or light slate colour, very faintly tinged in spots by the contents; consistence throughout natural. Glands of Peyer very apparent, very slightly elevated; isolated follicles visible, (size of millet-seed,) in last foot or two many with little central points.—*Mesenteric glands* firm, grayish, good size; one size of hazelnut, encysted and converted into a hard calcareous substance.—*Large intestine* contains a little liquid fæces; not distended; mucous membrane pale.—*Liver* large; containing much blood; adhesion one and a half inches square to diaphragm; firm; two substances not very distinct. Gall-bladder much distended by thick, viscid bile.—*Spleen* six inches long, soft, but texture preserved.—Kidneys firm; smooth externally; reddish-brown; membrane easily detached.—Bladder small; containing dark-coloured urine; mucous membrane pale.

Case VII. *Abscess of the Lungs, &c. after Amputation.*—Charles Thompson, æt. 34, seaman, admitted April 19th, 1834. He states that when at sea, three weeks before his admission, he fell a considerable distance, and received an injury of the right knee; was quiet only a few days, and then commenced walking; that inflammation immediately came on, and has continued to increase; has suffered immensely with pain and constitutional symptoms; has never been very robust; is of an irritable temperament, and has lost a great deal of flesh since the occurrence of the accident.

When first admitted, knee was very much swollen; great heat and tenderness of every part; an ulcerated surface on its inner side half an inch in diameter, from which there is a very copious discharge of a yellowish serous fluid, interspersed with flakes of lymph, evidently from the cavity of the joint; has a quick, frequent pulse; anxious countenance; bad appetite; night sweats; sleeps badly; bowels irregular.

His limb was elevated on an inclined plane; leeches freely and frequently applied, with cold mucilages, and afterwards emollient poultices; his strength supported by a mild nutritious diet and tonics: under this treatment, the swelling and heat of knee diminished; the

discharge, however, became more purulent in appearance, and increased so much in quantity that upwards of a pint was frequently discharged at a single dressing; the hectic became more decided; emaciation increased, and his sufferings were so great, that after consultation, it was determined to amputate the limb, as offering the only chance for the preservation of his life.

The operation was performed by Dr. HARRIS, on the 14th of May, at 11 A. M. a few inches above the knee. Patient bore the operation well. Upon examining the knee-joint, it was found filled with purulent fluid; synovial membrane no where apparent; cartilages almost destroyed.—*Evening.* Pulse is 130, less frequent, and fuller than before the operation; skin moist and warm; suffers but little pain; in fine spirits.

15*th.* Doing well; little pain; slight spasms of the stump; pulse 112; tongue moist. Allowed chicken water in addition to gruel.

17*th.* Stump dressed this morning; looks well; a portion has united by adhesive inflammation; healthy suppuration commencing; rests well at night; bowels open yesterday. Diet increased.

19*th.* Did not rest well last night; had a chill in the evening; pulse quickened this morning; stump looks well; tongue moist; moderate discharge from an abscess of the thigh.

21*st.* Larger discharge than usual from abscess; little change in symptoms generally; appetite not very good; has full diet.

22*d.* Less discharge; had another chill this morning; pulse weak, 150; says he "feels well;" countenance pallid; had flushes of heat; tongue moist. In the evening had an attack of colic.

23*d*, *Morning.* Pulse 160; unusual restlessness and anxiety. At 10 A. M. a chill followed by fever and sweat.—*Evening.* More comfortable; bowels opened by enema; pulse 140, weak; skin moist, rather below the natural temperature. Wine in addition to diet.

24*th.* Very ill; another chill last night; pulse exceedingly frequent; complains of a sense of chilliness, although his surface is of natural temperature; has constant tremors; tongue moist; no tenderness detected on pressing any part of abdomen; respiration hurried; considerable anxiety and contracted appearance of the countenance. Has been taking Quin. sulph. gr. j. every two hours. Pulse, (8 P. M.) rather fuller, and less frequent; the quantity of pus has diminished, but to-day there was some bloody serum discharged from stump.

26*th.* Little change, and no improvement since last report; discharge darker, but not increased in quantity; tongue moist; pulse very frequent and feeble. Treatment continued.

27th. No chill yesterday, but had fever; slight chilliness this morning; no appetite; tongue moist; pulse at evening less frequent. Same treatment.

28th. Respiration still short and hurried; pulse as last reported; tongue moist; sweats less than for several days past; intelligence duller, and occasional delirium; discharge from stump small, and of bad aspect. Treatment continued.

29th. Respiration more laborious; pulse can scarce be felt at the wrist; has had tendency to diarrhœa; very restless during the night. Died at 9½ A. M.

Autopsy, twenty-five hours after death.—Exterior. Emaciation; rigidity of extremities, particularly the upper; no lividity.—*Stump.* Union had taken place in about two-thirds of its extent, leaving the middle portion where the bone protruded a little. Cutaneous flap adhered closely; union could be broken up by using considerable force, leaving drops of blood in corresponding points of the two surfaces; no pus or other substance between these flaps; at the inferior part is an abscess an inch in depth, containing a small quantity of pus, covered by a false membrane, of thickness of fine parchment. The *arteries* obliterated to the extent of near two inches, and containing dark coagulum above this point, which adhered closely to the sides of the vessels; up to groin internal coat yellowish, and all the tunics increased in thickness.—*Veins*, (traced as arteries from above downwards,) containing in upper part dark, grumous blood; obliterated by a firm, dark coagulum in lower two inches; one vein, leading from external part of hip, contains a mixture of dark, clotted blood and purulent liquid; coats yellowish, slightly thickened, like those of the others; in tracing this last vein is found an abscess, which communicates with the cavity of the hip-joint, extending three inches below the trochanter on external side of bone, which is in that space denuded of periosteum in extent of two inches, and around two-thirds of its shaft; the muscles and cellular substance around it infiltrated with purulent fluid; false membrane not distinct; joint opened above and externally; articular cartilages not affected; synovial membrane not injected; lymphatic glands of that groin size of almonds, double that of left; rather soft; no pus.—*Sciatic nerve*, adhering to skin of stump by button-shaped extremity larger than the rest of nerve; same dots on its extremity as elsewhere.

Head. Dura mater, quantity of blood externally very small; longitudinal sinus empty; serosity in arachnoid moderate; pia mater pale. Cortical substance pale-gray; medullary less injected than usual; consistence of both perfect. Central parts pale, firm. Ventricles con-

taining ℥ss. of serum; plexus pale. Cerebrum pale, firm.—*Spinal marrow* pale and firm; no serosity in arachnoid.

Thorax. Left pleura containing upwards of a pint of purulent serosity, with flakes of coagulable lymph floating in it; lung in corresponding part of thoracic parietes covered by a thin, pultaceous false membrane, one-fourth of a line thick, easily detached; the pleura below it thickly dotted with red. Upon removing the false membrane, on the surface of the lung, a number of yellowish spots, from one to three lines in diameter, appear below the pleura. Upon removing the pleura the spots were seen to be formed of small collections of yellow, homogeneous pus, from the size of a small pea up to that of a large one; in the largest a thin, whitish membrane was found, not perceptible in smaller. These purulent collections were more numerous in lower than upper lobe, and much nearer the surface than centre of the lung, where two or three only were found. Bronchi pale; vessels empty; no appearance of pus, at least in the ramifications that could be traced. Tissue around the abscesses aerated; some places a little darker, but not hardened; the posterior half of the upper lobe heavy, still containing air, resisting pressure, friable, containing much serosity, (commencement of induration;) lower lobe containing less serosity, not indurated.—*Right lung.* This pleura contained ℥viij. of purulent serosity; same false membrane covering posterior part of lung; purulent collections equally abundant as in left, of same size, and found beneath the pleura, and some in the centre of the parenchyma; same anatomical appearances; posterior half of the upper lobe indurated partially, as in the left; still containing much serosity and some air. Bronchi not thickened, pale; bronchial glands small; in neither lung, any traces of granulations or tubercles.—*Heart.* Moderate size, flabby; membrane pale; coagulum on right side; valves healthy; ℥ss. of serum in pericardium.

Abdomen. Stomach distended, containing a thin, yellowish liquid; cardiac half, posterior part, pale and milky; exact line of demarcation between it and the pyloric half. In cardiac portion, numerous subcutaneous bluish vessels; mucous membrane softened, nearly gelatinous; other coats rather thickened, not evidently softened; pyloric half, pale slate colour covered with thick mucous, slightly mammillated along great curvature; strips, natural length, six to eight lines; anterior face of cardiac half, pale, not milky, without evident line of demarcation; strips rather friable, thin, three to four lines; pyloric half nearly as in posterior face.—*Small intestines.* Tunics thin, containing a yellowish mucus; mucous membrane throughout pale, thin every where, especially towards the valve, strips six to seven lines, not in-

creased towards its termination; glands of Peyer pale, reticulated, very little prominent; isolated glands not visible; mesenteric glands small.—*Large intestines* containing a small portion of hardened fæces; mucous membrane pale, consistence good.—*Liver* moderate size, brick-red, mottled with bluish spots externally; interior same red, interspersed with nuclei of dark brown, or in one or two instances of lighter red, than the rest of the texture; upon scraping these masses, they may be detached from the rest of the tissue, from their pulpy consistence, no distinct membrane around them; in centre of one or two, a yellowish spot, apparently pus, was observed, consistence generally good; bile abundant, greenish.—*Spleen* seven inches long, soft, dark, pulpy.—*Kidneys* smooth externally, *firm;* bladder contracted.

Case VIII. *Phlebitis following the Operation for Varicose Veins.*—John Farrell, æt. 30, workman in a chemical laboratory, was the third in a series of operations for varicose veins, performed by Dr. Harris in the spring of 1834, and the only one attended by any unpleasant symptoms. The operation consisted in the removal of about three-fourths of an inch of the diseased vein, from the part that passes along the inner side of the knee.

He was admitted into the hospital on the 19th of April, having an ulcer on the right leg originally caused by an injury received about nine years ago. The ulcer has been frequently healed, but generally remained so but for a short time. The veins on that leg are distended, thickened and tortuous, from near the ankle to within a few inches of the groin; general health good. Operation performed on 27th; compress placed on upper and lower end of divided vein, and a tight roller applied from the foot up to the groin.

Patient did well till 30th, when he complained of pain about the knee, around which is some erysipelatous inflammation. A red line is also observed to extend upwards in the course of vein to within an inch or two of the groin, with evident thickening and tenderness on making pressure upon the part. Pulse 100, intermits every fifth beat; countenance anxious; tongue whitish; bowels not open. Ordered fifty leeches along the vein; purge with magnes. sulph.; cold mucilage to knee.

May 1st. Inflammation of vein has increased but little; patient has some fever; pulse 100, with fewer intermissions; bowels freely purged by medicine yesterday; erysipelas extending; patient much depressed; fifty leeches along vein, followed by emplast. vesicat.; mist. neutral, ℥ss. q. 2. h.

2d. Blister drew well; erysipelas still extending upwards; patient

expresses himself as feeling more comfortable; skin less hot; pulse 90, without intermissions. Treatment continued.

3*d.* Better; pulse 92, soft, regular; skin warm; tongue cleaning; swelling and tenderness along course of vein diminished; rested well last night; less anxiety of countenance; slight extension of erysipelas. Same treatment.

5*th.* Nearly as last reported.

7*th.* Still some anxiety of countenance; swelling and tenderness along vein has nearly disappeared; erysipelas extended almost to groin, with increase of pain; pulse is feeble, and has occasional intermissions; tongue inclined to dryness; bowels open; muscular weakness considerable. Substitute linam. saponis. for mucilage; let him take quin. sulph. gr. ss. q. 2. h.

8*th.* Had a tolerable night; spirits still depressed; pulse fuller, soft, without intermission; less dryness of tongue; no extension of erysipelas. Remedies continued.

9*th.* Slight improvement; pulse 90, fuller and regular; great swelling in leg; slight return of appetite. Continue tonic; increase diet.

11*th.* Doing well; anxiety of countenance gone; pulse 80; tongue clean and moist; appetite good; sleeps well.

13*th.* No tenderness whatever in course of vein; slight swelling and redness continue in leg.

14*th.* Swelling subsiding rapidly; pulse slow and soft; bowels regular; good appetite.

18*th.* Ulcer on leg healed some days since; after subsidence of tenderness the roller was resumed on leg; has full diet; walks a little.

The patient continued to improve daily from the date of the last report, he gained flesh and strength, and was discharged well, June 1st.

ART. IV. *Observations on Nightmare.* By BLANCHARD FOSGATE, M. D. of Auburn, N. Y.

NIGHTMARE and incubus are terms applied to a disease, deeply interesting both to the physician and to the patient. To the physician, because no satisfactory explanation of its phenomena has been given, all being mere speculation not founded on facts, neither supported by correct pathological reasoning: and to the sufferer, for it seizes him under circumstances frightful in themselves, occurring mostly at dead

of night when assistance is least easily obtained, and he being rendered totally helpless.

It makes its attack on the system in that stage of sleep when the voluntary power is suspended, and the imagination is free from those restraints imposed upon it in the state of wakefulness by our judgment. The mind roving through various scenes and producing effects, only experienced in dreams, and best described by reference to them, arrives at a condition in which fear is the most prominent emotion. The dreamer often believing himself shipwrecked, and left to the mercy of the winds and waves; or he is fast approaching the brink of an awful precipice, without the power to turn aside, and over which he must unavoidably fall; or he is pursued by wild beasts intent on devouring him, and through all he feels spell-bound and unable to help or defend himself: he struggles with all his power to be released from this frightful situation, but apparently to no purpose, until at last when he considers his destruction inevitable, a sudden bound frees him from his condition, and a dream is disclosed, which he believes to have been the cause of his suffering.

The effects produced on the system are very great. Immediately after recovery the pulse is a little quickened, a tremor of the abdominal muscles is experienced, and extreme lassitude is felt throughout the whole frame. A want of energy characterizes this state; and as the first shades of sleep again descend upon him, he very perceptibly feels the approach of the disease a second time, but under different circumstances. From a lack of energy to change his position and shake off the predisposition now formed, he remains quiet, perfectly conscious of the advancing symptoms which are gradually stealing over and strengthening upon him, until the power of voluntary motion is again suspended, and he is in a condition differing from the first, inasmuch as he is conscious of his situation. He now attempts to change his position, but without success, and it is only after repeated trials that he succeeds in accomplishing his object. The same lassitude continues as after the first attack, and the second will be followed by a third with the same symptoms, and the third by a fourth, and so on until his exertions are sufficient to throw off the disease, by producing an action throughout the whole voluntary muscular texture.

There is no particular position necessary for the occurrence of this disease. It makes its attack in any position that a person can lie, and the setting position is not exempt from its effects.

This disease may be divided into the first and second paroxysms,

or that which is accompanied by a dream, and the succeeding attacks in which consciousness is present.

In addition to the feelings described in the first paroxysm, there is the sensation of a load upon the chest, and some fancy it a monster attempting to suffocate them. From this paroxysm very little information can be obtained, the person on awaking attributes all his sufferings to the dream which he considers the cause of his distress.

It is by attending strictly to the phenomena of the succeeding attacks that a knowledge of the pathology of the disease can be obtained. In these attacks many faculties of the mind are active and restrained to their proper course by the judgment. This is displayed in the exertion to move one part of the body and then another alternately, knowing if we succeed relief will be obtained. Neither is the memory dormant, for when we have been told that some of the senses are not impaired, and that we can exercise certain muscles, we are sure to make the trial. A person labouring under the second paroxysm, if the room be sufficiently light, can see whatever comes directly in front of him; he can hear the breathing of his bed-fellow, and is conscious of conversation when it takes place in his presence; he has the sense of touch, for he is aware of his contact with the bed-clothes, and also of irregularities in their position under him; he can move his under jaw with ease perpendicularly, but has no power to produce a lateral motion; he knows that he breathes but with much difficulty; he has the power of natural voice, but not of speech, and volition is perfect, but her organs are not obedient to her mandates.

These are the facts from which we are to determine its pathological character, and upon which we are to build our hope of success in removing the obscurity hitherto surrounding the location and cause of this disease.

The remote causes of this affection are violent mental agitation—fear—also great fatigue of body, and in truth whatever wearies the mind or body beyond their healthy endurance. But the most prolific cause is overloading the stomach before retiring to rest. The proximate cause consists in one part of the system requiring a greater amount of nervous power than is naturally appropriated to it, and as the extremities of the nerves cannot produce the deficiency, this extra quantity of nervous influence must be supplied from some other part, consequently the part from which the deficiency is obtained is left in an unnatural condition, and thus results this affection.

I will here state that I consider this disease to be purely nervous, and that the attendant dyspnœa and congestion are effects consequent

upon it, and not the cause as has been believed and supported by pathologists. But before I proceed further, I would remark that the nervous texture is subject to the strongest anomalies connected with the human system, and that its various uses are continually merging into light, and that previous to the late discoveries of distinct functions connected with different filaments, and the regularity of the origin of each set of nerves, and that their qualities depend upon the part from which they are derived, the subject was enveloped in comparative obscurity. It is by carefully regarding these late discoveries in connexion with the phenomena presented by the disease, that its pathology can be determined.

The anterior column of the spinal marrow and the nerves arising therefrom, are the seat of incubus. This being the case, the nerves of feeling arising from the posterior column of respiration, arising from the lateral column of vision and hearing, originating from the brain and the brain itself, are not involved in the disease. We are now able to account for its various phenomena.

The faculty of the mind in reasoning, the active state of the memory and volition are qualifications belonging exclusively to the brain, and are not the subjects of this disease.

The sense of feeling is the peculiar property of the filaments originating in the posterior column of the spinal marrow, and therefore is not operated upon by this affection.

The act of respiration is continued, but somewhat impaired, being very laborious. The muscles performing this operation are supplied with three sets of nerves all differing in their functions; one set from the anterior column being the nerves of voluntary motion, and combined with another set from the posterior column conveying sensation, and a third set from the lateral column being those of respiration. The first set which is the seat of the disease may be regarded as the cause of the dyspnœa. The process of breathing is effected by the nerves of respiration in conjunction with those of volition, the first not being sufficient to the perfect performance of this office without the coöperation of the last. If from any cause the voluntary muscular action is suspended, the motion of the thorax is diminished, and an intolerable sense of pressure and suffocation is the result. From this circumstance the name of the disease originated, (incubus, from the Latin, signifying one who lies upon.) The tremulous motion experienced in the abdominal muscles after the paroxysm I conceive to be caused by an irregular return of nervous influence to them.

All the muscles of the face are subject to the will, but are unaffected by the disease, and the countenance expresses great anxiety.

These muscles with many of the neck are supplied by the portio dura, which is a nerve of respiration, expression, and volition in the muscles to which it is distributed. This accounts for our being able to move the lower jaw in a perpendicular, but not in a lateral direction. The muscles of the face and throat being competent to produce this motion without the assistance of those of mastication, these latter being supplied with a branch from the fifth pair, and of these muscles the pterygoideus externus is that which causes the lateral movement. Over these muscles of the jaw we have no controul.

To account for the faculty we possess of seeing objects that are in a line perpendicular to the face during the paroxysm, and only those in that direction, require our attention to the functions of the various parts of which the organ of vision is composed. And here I shall again take advantage of the discoveries of Mr. Charles Bell, in the physiology of the nervous texture.

It will be readily seen that as the optic nerve arises from the brain, its function cannot be impaired; but when we consider that the situation of the globus oculi during sleep excludes the light, both from the elevated position of the pupil and the closure of the palpebra, and in addition to these the inactive condition of the voluntary muscles, during the paroxysm of incubus, we are perplexed to solve the problem.

The muscles of the eyelids are supplied with nervous twigs from the portio dura, and hence, are not under the influence of the disease. But how shall we account for the phenomena of vision, when it is known that the pupil is raised above the margin of the elevated lid? The ball rises from the relaxation of the superior oblique, and this muscle is furnished with a distinct nerve, which arises from the summit of the column that originates the nerves of respiration, consequently the disease does not affect this muscle. Now, all the motions of the superior palpebra are accompanied with an opposite movement of the superior oblique, as when the lid falls the eyeball rolls upwards, and vice versa. These actions are attendant upon each other, and are both voluntary and involuntary. The nerves of respiration endow their muscles with this double quality. But these movements only open the eye and bring the pupil in the most anterior direction, and further command over this organ they have none. The recti muscles give the various directions to the eye, they receive their nerves from the motor division, and are purely for voluntary motion.

The sense of hearing is conveyed to the sensorium by the portio mollis, a nerve originating from the brain. But the function of this

apparatus would avail nothing without the action of the muscles connected with the internal structure of the ear. These muscles are furnished with branches from the fifth and seventh pair of nerves, and as the seventh pair are nerves of voluntary muscular motion to the face and neck, we may safely conclude, that the same influence is exerted on these muscles, producing the necessary action for conveying sounds.

The larynx receives its nerves in four branches from the par vagum, which is the principal nerve of respiration, and by these we are endowed with natural voice, which we are capable of exercising when under the influence of this disease; but of the faculty of speech we are deprived, the tongue being furnished with its nerves of voluntary motion from the anterior column of the spinal marrow being the twelfth pair of Mr. Charles Bell.

The action of the heart continues. This centre of the circulation so necessary to the continuance of life in every condition, is supplied with branches from the par vagum, and when its functions are deranged in this disease, it is from sympathy with the lungs. The motions of the heart are less under the influence of the brain than the lungs are, and it becomes disturbed, not from its dependance upon the brain, but from its association with respiration; and I have before stated, the derangement of respiration is caused by a suppression of nervous influence to the voluntary muscles of the thorax and abdomen.

Rest in general, renders the healthy pulse slower, but when the stomach is oppressed with a heavy meal, and the person falls asleep, the pulse becomes much quickened. As the powers of volition subside, that of sensorial action increases, and the action of the heart and arteries are augmented by their consent with the aggravated operation of the stomach. This being the case, incubus cannot be the effect of stagnation of the blood, for it invariably occurs under some extra irritation.

The theory of this disease based on congestion is entirely hypothetical. The symptoms indicating this state of the vascular system are neither sufficiently numerous nor well marked, to have any weight in fixing it as the proximate cause. What congestion there may be is more easily accounted for as an effect, than as a cause of this disease.

Incubus differs from coma, inasmuch as in the latter there is neither consciousness nor volition; and in asphyxia consciousness is lost, volition is suspended, and there are no perceptible respiratory or arterial actions. There is no suspension of volition during the paroxysm

of nightmare, for the endeavours of the victim to be liberated from his sufferings are very active. It differs from revery in being intercepted by the action of the voluntary muscles, produced either by the will, or by the application of external force. After a paroxysm of nightmare, we remember distinctly our ideas and sensations, but on recovery from a fit of revery, we have no recollection of what passed during its continuance. It is a blank in our conscious existence.

It is my firm opinion that death never is an effect of this disease, because, when the painful sensation acquires a certain degree of severity, the voluntary power will come into action and the disease ends. And we know from experiment that motion intercepts its progress, and that the voluntary muscles universally come into action previous to dissolution, unless it supervenes upon typhus fever where the irritability of the system is worn out, or upon the effect of electricity, or the exhibition of some of the virulent poisons, as hydrocyanic acid, and as before stated, this action of the voluntary muscles ends the complaint, or in other words, the disease destroys itself.

The course of treatment to be pursued in this affection, is prophylactic. The principal indication is to keep the nervous influence as equally balanced as possible. This is to be accomplished by preventing extra excitement in the thoracic or abdominal viscera. Food should not be taken in large quantities immediately before retiring to rest, because when the stomach is engorged it requires under all circumstances a greater amount of nervous influence than is appropriated to its natural action of digestion, but more particularly in the state of sleep, for then digestion proceeds more rapidly, and the action of the voluntary organs having ceased, the whole current of nervous power expended on them in their state of action, is drawn to the stomach with so much avidity that they are left without a sufficient amount to be acted upon by the will.

To those habitually afflicted with this malady, I would recommend an alarm watch, set to awake them at short intervals, and kept at such a distance from their bed, as to oblige them to leave it whenever it require resetting. The voluntary action thus produced will be sufficient to equalize the nervous influence. For in the proportion that the action of the voluntary powers return, that of the digestive organs decrease.

In conclusion, the disease is purely nervous: secondly, it is consequent upon a deficiency of nervous influence in one part of the system, occasioned by a greater demand for it in another part; and last-

ly, is confined to that division of the nervous texture designed entirely for voluntary motion, leaving all other functions of the organization in their normal condition.

Auburn, Cayuga County, N. Y. April 16th, 1834.

[The following extract of a letter from the author of the preceding article to the editor, deserves to be quoted, as it shows the author to be himself a sufferer from the affection he describes:—"My views of the disease have been drawn from attentive observation of its phenomena, having advanced only such symptoms as have been experienced by myself. My opportunities for so doing have been more abundant than I could have desired. I have been more or less the subject of this affection since my earliest remembrance, and it has at all times engaged my most earnest attention."—Ed.]

Art. V. *Pneumonia of Children.* By W. W. Gerhard, M. D. [Part 2d.]

THE analysis of the forty cases of pneumonia occurring in children between the ages of six and fifteen years, shows that this affection in children of the ages just mentioned is characterized by bronchial respiration, crepitus rhonchus, flat sound on percussion, fever, cough, &c.; in short, the symptoms are precisely similar to those of the pneumonia of adults. The disease has an origin marked by rather abrupt appearance of the symptoms, it has a definite duration, and in the large majority of cases terminates by the recovery of health. I have now to pursue the same method of analysis, and examine the observations of children between the age of two and six years. The earliest period at which they are received at the Children's Hospital of Paris is two years, and I have therefore but a small number of observations relative to infants.

I excluded from the first series all cases in which the affection of the lungs was evidently consecutive to another disease, such as measles, small-pox, or tubercles if sufficiently advanced to furnish certain indications of their presence. This second series was much less easily distinguished from the cases in which pneumonia is a secondary lesion, and does not present the same broad line of separation as the inflammation of the lungs in older children. The want of characters by which to designate at the first glance the cases of supposed idiopa-

thic pneumonia in young children, is in strong contrast with the facility of diagnosis in the inflammations of the lungs at an age a little more advanced.

I have selected from the observations I collected at the Children's Hospital, sixteen cases of pneumonia occurring between the ages of two and six years, in which the disease was the least clearly dependent upon an antecedent affection. Of these sixteen cases, twelve terminated fatally, and four recovered; a result very different from that obtained in older children in whom but one-fortieth of the cases terminated fatally, instead of the immense mortality of three-fourths which was observed in the second series. Of course I do not mean that such would be the general ratio, or that such is the average result even amongst the poor of Paris, but that, of the children sufficiently ill to be admitted into the Children's Hospital, three-fourths of those who seemed attacked with pneumonia, and whose age was less than six years died. The mortality of this series is not peculiar to the disease in question, a large majority of young children affected with different diseases die at the Children's Hospital. The following cases are examples.

Case. Eugenie, æt. three years, entered June 17th, 1833, into the girl's wards. Her parents, (intelligent,) gave the following details. Born in the country, but brought to her parents at Paris eight months ago, since that time she is weak, cannot walk, irritable temperament. A fortnight before her entrance she began to cough; heat of skin some days afterwards; no vomiting; diarrhœa of three or four discharges daily; appetite until last two days; thirst great, asking for drink, but frequently refusing it afterwards when presented to her; complains of pain in the head.

18*th*. Present state.—Hair fair; skin clear; eyes gray; moderate embonpoint; lips thin, rosy; nostrils in motion; decubitus dorsal; tranquil; respiration high, forty per minute; cough rare; tongue reddish, moist at edges; abdomen yielding, tender at the umbilicus only. "Four leeches to the chest; demulcents."

19*th*. Skin hot; diarrhœa abundant during the night; thirst intense; face injected; some dilatation of the nostrils; stupor; acute cries when disturbed; respiration high, fifty to sixty; tongue and abdomen as before.

20*th*. Stupor; ill humour if disturbed; some heat of skin and thirst, but she refuses with disgust the cup when offered to her; pulse 145; respiration fifty, irregular; auscultation practicable for first time; percussion nearly flat in whole posterior part of the right side, and in the axilla sonorous anteriorly, and in the whole of the left side; res-

piration on right side anteriorly little expansive; inspiration and expiration nearly equally distinct; same characters posteriorly; no rhonchus; respiration on left side expansive, anteriorly and posteriorly without rhonchus or expiration. Syrup of gum; cataplasm to chest; milk.

On the 21st the inspiration in the posterior part of the thorax was blowing on the two sides without distinct expiration; anteriorly expansive on the left side; a little blowing on the right; percussion sonorous on both sides anteriorly; obscure posteriorly on the right side; moderately sonorous on the left.

On the 22d great sonoriety on percussion anteriorly on both sides; very obscure sound posteriorly, extending to the axilla on the right side; strong bronchial or tubal respiration in the upper two-thirds of the posterior part of both lungs; more marked in the right than the left; both inspiration and expiration tubal, the latter sometimes wanting, but when heard even more blowing than the inspiration; inferiorly, blowing inspiration with mucous rhonchus; no expiration; anteriorly, respiration vesicular on both sides, but feeble on the right and mixed with sonorous rhonchus; bronchophony, (tubal,) in the upper posterior part of both lungs.

Auscultation repeated on the 23d and 24th with no change except greater feebleness of the respiration posteriorly.

26*th.* Bronchial respiration again louder, very tubal on both sides posteriorly; the face was flushed at first, afterwards pale; lips red, and nostrils always in strong dilatation. On the 24th on each cheek there was an eruption of very small, pale-red, irregular spots; the eruption was still very pale on the 25th, a little more distinct on the 26th, on the face, but without a more determinate character, and not visible on the rest of the body.

The eyes were natural until the 24th, when they were injected and secreting a puriform liquid, which continued; features altered on the 25th; skin hot, dry generally, but in full perspiration on the 23d and 24th. Cough during the whole disease, at first dry, afterwards loose and mucous; respiration always high, frequently irregular, from forty to eighty inspirations per minute; voice and deglutition natural; decubitus always dorsal; pulse except the last day small, quick, from 130 to 140 per minute, sometimes irregular; tongue reddish at edges, grayish at centre, but never dry or brownish; anorexia complete; no vomiting observed; thirst always intense; diarrhœa during the whole disease abundant; on the 24th discharge of two or three lumbrici in the stools; abdomen yielding, and not distended at first, then retract-

ed and finally a little distended with gas; never evidently tender on pressure.—Treatment. Syrup of gum; emollient cataplasms to chest and abdomen; potion of ether and Corsican moss after the discharge of the worms; the white decoction, (gelatinous decoction,) in the last days of the disease.

27th. Face very pale; lips dark red; nostrils strongly dilated; intelligence appears perfect; features haggard; agitation, throwing her arms from beneath the bed-clothes; decubitus more listless; respiration 70 to 75 per minute; pulse impossible to count, between 150 and 200, very feeble but regular; cough feeble, provoked by the effort of drinking, which makes her reject abruptly the drinks offered to her; heat moderate, moist; tongue thick, reddish; thirst intense; diarrhœa abundant; percussion flat on the anterior part of the right side, sonorous on the left; respiration tubal on the right, expansive and loud on the left; no auscultation practicable posteriorly. Death took place the same evening.

Autopsy the 29th, forty hours after death.—Abdomen greenish, distended with gas; slight œdema of the lower extremities.

Head. Abundant liquid blood on the exterior of the dura mater; small fibrinous coagulum in the longitudinal sinus; some serosity in the cavity of the arachnoid, but little beneath it. Large sinuses of the pia mater generally distended, especially in the posterior part. Cortical substance rather violet; medullary a little more injected than usual. Ventricles contain a tea-spoonful of serosity; central parts white and firm; consistence of whole brain perfect; cerebellum, medulla oblongata, and pons varolii firm, similar in colour to the cerebrum.

Thorax.—*Pleuræ* not adherent; each containing from one to two ounces of reddish serosity.—*Right lung* externally of a uniform violet-brown colour, except just along the anterior border of the upper lobe, where the colour is less intense. A few vesicles in this border still contained air, but the lung in all the rest of its extent was hard; not floating in water; resisting the pressure of the finger; containing no air except a few bubbles, which may be forced from a few grayish points; smooth incision, marked with the whitish vessels and bronchia; not granulated; of a liver-brown colour. Bronchia not thickened nor dilated; containing some yellowish mucosity.—*Left lung.* Upper lobe offers anteriorly rounded elevations, owing to the dilatation of the vesicles in some of the lobules; posteriorly the pulmonary tissue is hard and reddish-brown in a mass the size of a hazelnut; inferior lobe in its whole extent impermeable to the air, dark red: in

all respects similar to the inferior lobe of the right lung. Bronchia of the lower lobe as in the right lung; in the upper they are nearly without mucus and more polished. Bronchial glands violet, large, not tuberculous. Pericardium containing a little reddish serosity. Heart of ordinary size; fibrinous coagulum in each side, firm; red colour of its internal surface as well as of that of the aorta.

Abdomen. Stomach slightly contracted, containing a whitish, viscous mucus; anterior face pale, yellowish-gray, rosy in the great tuberosity, smooth, not mammillated, offering numerous little depressions regularly rounded, the largest half a line in diameter, without redness or elevation of the edges; mucous membrane not entirely destroyed. Posterior face of a tolerably bright red in its cardiac half, from very numerous vascular arborizations; the pyloric half is of the same colour as the anterior face. Slight mammillation along the middle of the small curvature. Thickness of the mucous coat natural; consistence perfect; strips four or five lines in the great tuberosity, six to nine on the faces, and twelve or fourteen in the small curvature.—*Small intestine.* Containing a greenish-yellow mucus, and five or six lumbrici; mucous membrane tinged by the contents in the upper third; strips five to seven lines, easily detached. In the middle third the colour is the same, with some fine vascular arborizations in patches, one to three inches long; strips seven to nine lines long. In the last third mucous membrane pale, of good consistence. Glands of Peyer pale, reticulated, slightly elevated, except the last five or six, which are of an obscure red colour; rather more elevated than usual; the orifices of their follicles not visible, but not ulcerated; the subjacent tissue pale, not thickened. Isolated follicles visible only in the last foot of the intestine; nearly all with a central point and flattened.—*Mesenteric glands.* Size of a grain of maize, violet-coloured, moderately firm; those near the extremity of the intestine rather larger.—*Large intestine.* Contracted, containing some yellowish mucus; cœcum and ascending colon pale, except some sub-mucous vessels; follicles numerous, with the usual central point; strips five to seven lines. Mucous membrane of the transverse colon, as well as in the sigmoid flexure in general, pale, but marbled with some longitudinal patches of bright, dotted redness; strips four to five lines. Inferiorly, membrane pale, but of good consistence; strips seven to ten lines. Slight thickening of the mucous membrane in the superior half of the colon.—*Liver* of a brownish-lead colour, both externally and internally; two substances not distinct; incision smooth, yielding little blood; not fatty. Bile greenish, not abundant.—*Spleen*

two inches long, one and a half broad, reddish-brown, firm.—*Kidneys* rather pale, smooth externally, firm.—*Bladder* contracted.—*Uterus* violet-coloured, firm.

I have preferred giving this observation in great detail, as an example of the most perfect kind of the lobular pneumonia. The whole of the right lung, except a few vesicles along the anterior border, was utterly unfit for respiration; hard, smooth, and reddish-brown: the same was true of the inferior lobe of the left, and of a portion of its upper lobe. The original character of this lesion, which at first appeared as hardened, detached lobules, which afterwards unite together, was evident only in the superior lobe of the left lung; the other portions of the pulmonary parenchyma had become entirely impermeable to the air. Although the induration of the pulmonary parenchyma was no longer confined to detached lobules, it still differed very much from the ordinary pneumonia of adults: instead of the granulated, irregular surface, the indurated lung was very smooth and shining; its colour was rather bluish instead of the deep red which characterizes the pneumonia of the adult. The term hepatization is still applicable to the induration of the lungs of young children, but it is to the bluish, smooth liver of subjects in very early life, not of adults, that the lung must be compared. The hardness of the lung was remarkable; the lobulated induration is never so friable as the hepatized lung of an adult, but it is in general rather less resistant than in the present instance. The bronchia are not obliterated, but only compressed, so that the scissors could be easily forced through them; nor did they offer the redness and thickening almost always observed in the bronchia of an inflamed lung in an adult. The pleuræ were not apparently altered. The other viscera presented very slight traces of disease.

Passing from the anatomical appearances of the case to the symptoms, we find that the cough began a fortnight before her entrance, the other symptoms commenced at various dates, which were imperfectly ascertained. On the 24th, there was a distinct though pale eruption of measles, which was possibly the latent cause of the pulmonary induration, at least the frequent coincidence of the pectoral affection with the first appearance of measles, or even before their development renders this supposition extremely probable; the case is not a clearly marked idiopathic affection of the lungs. The child was also feeble, and the symptoms of the affection of the lungs were at first confounded with other phenomena. The local signs of the induration of the lungs were clear; respiration very high, from forty to

seventy inspirations per minute; obscurity on percussion, and afterwards flat sound on the affected side, corresponding to the degree of induration; mucous rhonchus; then an obscure blowing inspiration, a little later strong expiration, and finally distinct tubal respiration, or the most intense degree of bronchial respiration. The tubal respiration did not exist in the inferior third of the lung, although the induration extended to that part, but the inspiration was here blowing and marked by mucous rhonchus: the absence of the tubal expiration near the base of the lung probably depends on the anatomical difference in the distribution of the bronchia, which are smaller at the base of the lung, and almost always obliterated by the induration of the pulmonary tissue. The obscurity on percussion existed before the bronchial respiration; this is usually the case in lobular pneumonia, and percussion generally indicates the existence of the disease at an earlier period than auscultation. There was of course no expectoration. The abdominal symptoms were thirst, anorexia, vomiting and diarrhœa; there was but little alteration of the alimentary canal to account for these disordered functions.

Frequently the lobular pneumonia occurs in a child enfeebled by various affections, and at the time affected with a catarrh of some duration; a remarkable instance was furnished by the following case.

Observation.—Duplay, æt. 5; this boy was in the ward appropriated to diseases of the skin, his disease was a chronic œzema on the face and on a large part of all the limbs. On the 9th of November, 1832, the eruption presented the usual characters, (thin scales on a reddish or nearly a brown ground;) frequent but loose cough; no diarrhœa. Barley water; baths of soap and water.

12*th.* Cough continues; eruption has not changed in character. Julep with syrup of poppies; emollient lotions; Goulard's cerate to be applied.

15*th.* On passing by the bed of the patient I was struck by the extreme dilatation of the nostrils and evident difficulty of the respiration, one hundred and eight inspirations per minute, irregular; pulse 150, quick, very irregular; strong bronchial respiration at the posterior part of both lungs. Two cups to the base of the chest; gum potion; sinapisms to legs; blisters to feet and legs.

From the 15th to the 17th the pulse increased in frequency to nearly two hundred per minute; respiration 94; coma extreme; oppression; face very red, even purple last evening; nostrils in motion; mouth closed; cough rare. Continue potion.

18*th.* Profound stupor; skin dry, rather warm; respiration very

irregular, seventy to eighty per minute; pulse 160, rather irregular; abdomen retracted, grimaces if pressure be made upon it; cough stifled. Nitro-muriatic acid in poultices to feet; gum linctus.

Death in the night of 18th to 19th.

Autopsy.—Exterior. Little lividity; skin in several points offering brownish crusts; in others thin scales.

Thorax. Pleura not adherent.—*Left lung.* The whole inferior lobe and the posterior four-fifths of the upper lobe were hepatized, the cut surface was smooth, nearly homogeneous in appearance, not granulated, hard, of dark red colour, with the whitish vessels visible in the mass; fragments of the lung sink in water; the anterior border of the upper lobe is grayish, and permeable to the air.—*Right lung* hepatized in the whole of the lower lobe, which is similar to the lower lobe of the left; upper and middle lobes hepatized in their posterior half, grayish, and containing air in the anterior portion in which are some dark red masses formed by the induration of isolated lobules, which contract strongly with the permeable gray portions of the lung; bronchia violet colour, containing some mucus; no tubercles in the lungs, but the bronchial glands contain some tuberculous matter.—*Heart* at least twice the size of the fist of the child; a little lemon-coloured serosity in the pericardium; right ventricle distended by blood; right auricle by an enormous fibrinous coagulum; some coagula, and a very large quantity of curdled blood in the left cavities; walls of the heart of little more than the usual thickness; that of the left ventricle is three lines at its middle part; aorta pale.

Neck. Pharynx, trachea and larynx, pale.

Abdomen.—Stomach contracted, containing a little mucus, offering numerous rugæ, which are of a bright dotted redness, especially in the pyloric portion; slight mammillation in the pyloric fourth; general colour of the mucous membrane pale, orange-red; consistence perfect, but thickness a little greater than usual.—*Small intestine* containing a yellow and not abundant liquid near the valve; mucous membrane generally of a dark reddish colour from numerous arborizations in the upper two-thirds; the redness extends to the glands of Peyer, which are neither thickened nor ulcerated, and retain the normal reticular aspect; a few isolated follicles near the valve, when the mucous membrane becomes more pale; consistence perfect throughout the whole length.—*Mesenteric glands* grayish and normal.—*Large intestine* containing some greenish fæcal matter, contracted; numerous arborizations through its whole extent; moderate softening and some thickening of the mucous membrane; strips at most six to eight

lines long, but rather more in the rectum.—*Liver* containing much blood; gall-bladder not distended; bile greenish.—*Spleen* and *kidneys* firm.

Head. Moderate quantity of blood exterior to the dura mater; little serosity in the cavity of the arachnoid, or below this membrane; vessels of the pia mater gorged with blood; cortical substance dark gray colour; medullary much dotted with blood; one drachm of limpid serosity in the two lateral ventricles.

The preceding observation furnishes an example of lobular induration occurring suddenly in a child enfeebled by a chronic disease of the skin, and affected with bronchitis and diarrhœa before the development of the induration of the lungs. The latter affection is very frequently preceded by diarrhœa, which often continues some weeks before the appearance of the bronchitis, and still longer before the induration of the lungs has attained a sufficient extent to be recognised by the usual indications. In such cases the secondary nature of the lesion in question becomes evident.

These two examples are given in detail as specimens of the disease; some of the most important characters of the affection are noticed in the following table, which contains a short analysis of all the cases.* The cases numbered from one to eight inclusive relate to boys, the others to girls. In the first column the age of the child, the month in which he was brought to the hospital, and the previous state of health are mentioned. The duration, when ascertained with tolerable probability, is given in the second column; the commencement of the disease is dated from the existence of the cough, which symptom was the most certain indication of an affection of the lungs which terminated in induration, and was apparently the first period of this disease. The third column refers to the parts of the pulmonary organs which were impermeable to the air. The fourth indicates the presence or absence of an inflammation of the pleuræ, as shown by the presence of false membranes or purulent serosity. The fifth column marks the cases in which tubercles were formed in the lungs or bronchial glands.

* Tables of great extent, or which embrace numerous details, are obviously not adapted for publication; but a short tabular view of some of the symptoms of diseases little studied renders the facts far more intelligible.

	Duration.	*Extent of Induration.*	*Pleurisy.*	*Tubercles.*
1. Æt. 5. November. Feeble health.	Unknown.	Both lungs, especially the left, in nearly whole extent.	None.	None.
2. Æt. 2. February. Feeble health.	Five months.	Posterior three-fourths of left and half of right.	None.	None.
3. Æt. 2. March. Disease of skin, (chronic.)		Posterior half of the right and three-fourths of the left.	None.	None.
4. Æt. 2. January. Measles.	Six to eight weeks.	Posterior three-fourths of the inferior lobe of both lungs.	Slight adhesions in left lung.	A few in the lower lobe of the right lung.
5. Æt. 2. January. Diarrhœa of a year's standing.	Three to four months.	Right lung; yellow hepatization, except a little of the *posterior* part of the upper and lower lobes. Left, idem.	Adhesions in both lungs posteriorly.	None.
6. Æt. 2. January. Diarrhœa for two months.	Three weeks.	Posterior parts of upper and lower lobe of the right lung, and lower of left.	None.	In both lungs and bronchial glands.
7. Æt. 2. February. Rachitis.		Whole of right lung and inferior lobe of left.	None.	None.
8. Æt. 6. December. Cough of long standing.	Six to eight weeks.	Right lung in posterior half; left posteriorly.	On both sides.	In each lung and in glands.
9. Æt. 3. June. Feeble health.	Twenty-five days.	Both lungs, especially the right.	None.	None.
10. Æt. 2. March. Chronic disease of skin.		Posterior half of the right and three-fourths of the left.	None.	None.
11. Æt. 5. May. Tuberculous.	Seven weeks.	Inferior lobe of left, and posterior part of upper and lower of right.	Both lungs.	In both.
12. Æt. 3. January. Cough from birth.		Nearly the whole of right lung, and the lower lobe of the left.	Slight adhesions on right side.	None.

But one of the cases contained in the preceding table related to a child over the age of six years; seven of the twelve patients were between two and three years of age. The mean age, (exclusive of fractions,) is three years, or if fractional parts be counted, it will be between three and three and a half years. We see that there is an interval between the ages of three and seven years, in which the form of induration now described is comparatively rare, and that its most frequent occurrence is in the younger children: this statement is not applicable only to the children old enough to be admitted into the Children's Hospital, it is also true, and in a still more general way, at the Foundling Hospital, where very few autopsies are made without finding the lungs in a greater or less degree impermeable to the air.

The previous state of health was examined in all the twelve cases, and without any exception it was found to be feeble. Some of the children were affected with chronic cough, others with diarrhœa, which is very frequently the prelude to the pulmonary disease; two were admitted from other wards in the hospital, where they had been treated for chronic diseases of the skin of very long duration: not one of the cases occurred in a healthy child. On the other hand it was shown in the first part of this memoir that the older children who presented the ordinary form of pneumonia were with few exceptions in perfect health at the time of its appearance, and no case was regarded as a legitimate example of pneumonia unless the previous health of the child was perfect, or so little affected that no connexion could be traced between the chronic and the acute disease. If the same rigorous limitation were applied to the form of disease now under consideration, it is obvious that its existence as an idiopathic affection would be more than doubtful, for the cases which I have taken as examples were selected because the evidence of anterior disease was in them the least apparent: on minute examination we find, however, that even of these cases none was an original disease developed in a healthy subject, hence none could be looked upon as a strictly idiopathic affection, analogous to the pneumonia of older children. I possess many other observations of pulmonary induration which are still further removed from the character of an original disease, for in those instances no doubt existed as to the secondary nature of the affection, and it was not in accordance with rigorous induction to class them among the observations which admitted of comparison with the cases of older children affected with the ordinary form of pneumonia. The classification which I have adopted, excludes all cases in which the secondary nature of the symptoms was evident, and explains in part the rarity of the disease in children older than two years, but younger than those in whom cases of ordinary pneumonia occur; in very young children it is difficult for parents to recognise the first signs of disease, which are sufficiently obvious in older ones, to make the nature of the affection perfectly clear.

The duration of the pneumonia of young children was discovered with much difficulty, but in all cases it greatly exceeded that of older children; the least duration ascertained was three weeks: in some cases it extended to several months, and became really a chronic disease. In adults, or in older children, pneumonia is never, or at least only in rare and doubtful cases, a chronic disease, but in the form of it peculiar to young children its existence seems prolonged much beyond the duration of the first mentioned variety, and it does not

appear subject to any definite law. The beginning of the affection was sometimes, though very rarely abrupt; in general the cough was at first loose, and there was little apparent difficulty of respiration; these symptoms gradually increased, until the oppression became intense, and the respiration impeded to a degree much beyond what is ever remarked in the pneumonia of adults.

The lungs were in every case indurated in a large portion of their structure; in no instance was the lesion confined to a single one of these organs. This anatomical fact offers a very remarkable contrast with the pneumonia of adults, in whom the disease but rarely extends to more than one of the lungs. The affection of both lungs was not a mere accident occurring immediately before death, the physical signs proved that both organs became diseased nearly at the same time, and in nearly the same degree. The extent in which the lungs were impermeable to air was very great in every case; in some so small a portion of the pulmonary parenchyma remained permeable that the child must have died of the physical obstruction to the circulation of the blood; in such cases the difficulty of the respiration was extreme. In no case was the lung infiltrated with pus, or in the second degree of hepatization (yellow softening;) in a single* case the hepatized portion was of a yellowish colour, but in all the induration was great, resisting more or less on pressure, and although more easily crushed than a portion of healthy lung, the tissue was always much less friable than it usually is in the pulmonary inflammation of adults. The colour as described in the detailed cases which I have given, was a bluish-red, much less intense than that of ordinary hepatization; and as mentioned in those cases, the cut surface was smooth, shining, not granulated, and yielded on pressure a whitish, slimy mucus, instead of blood or pus. The peculiar manner in which the induration takes place was evident in some of the twelve cases, but before death the lesion generally becomes so extensive that its original aspect is retained in but a small portion of the lung. In cases in which death takes place from some other lesion than that of the lungs, the original character of the disease is more evident. The induration if studied in a large number of subjects presents three distinct stages. If a lung be examined in the first stages, the greater part of the parenchyma is very soft, rosy or gray, little infiltrated with serosity or blood, and permeable; in other circumscribed parts of the lung the tissue is of a dark brown or bluish colour, very hard, and a shining, glossy aspect, very different from that of the healthy tissue. These

* This case was an exceptional one in several respects.

indurations are exactly limited by the cellular tissue interposed between the lobules, and are not usually surrounded by the pulmonary tissue infiltrated with blood, and of diminished consistence: in this stage of the disease the name lobular induration is applicable to the lesion. In the second stage of induration the isolated lobules are more generally indurated; the lung if incised offers at first sight a homogeneous appearance, but an attentive inspection shows that it is marbled with small, irregular, grayish spots, from which bubbles of air can be forced by pressure; these grayish spots are portions of the pulmonary tissue, in which the vesicular structure is still distinct, but surrounded by indurated portions of lung. Some care is necessary to distinguish the presence of vesicles in the spots described; they may be mistaken for the orifices of divided bronchia, or sometimes for softened portions of the lung, but pressure on the parts will always force out some minute bubbles of air, and render their vesicular structure distinct. The third stage of induration presents the shining homogeneous appearance described in the two detailed cases; the vessels are still visible as little whitish lines, and the bronchia are compressed, but with a little care they may be readily traced. The state of the bronchia differs from that in which they are found in ordinary pneumonia; in the lesion now described, they contain some whitish mucus, very rarely yellowish, or puriform liquid; the mucous membrane retains its shining, transparent appearance, and is not often of a bright red; in no cases do I find it described as thickened. The inflammatory state of the bronchia is less intense therefore than in ordinary pneumonia, and is not accompanied by the secretion of the viscid, rusty-coloured liquid, which is almost characteristic of the disease in adults.

Inflammation of the pleuræ, indicated by the presence of false membranes, or a little puriform serosity, is almost always found in adult subjects dead of pneumonia; so frequently that the name pleuro-pneumonia was given by some writers to the disease. In the pneumonia of young children pleurisy is rare; of the twelve cases mentioned in the table, there were adhesion in five only; and of these adhesions some were cellular, perfectly organized, and had evidently existed a considerable time before death. When pleurisy occurs, it is therefore an exceptional case.

Four of the twelve subjects had tubercles in the lungs or bronchial glands. In one of these cases no tubercles were found in the lungs, although there were evident tuberculous deposits in the bronchial glands; this was an exception to the general rule.

I shall now examine the symptoms of lobular induration, comparing

them with those of the pneumonia of adults, or what is shown to be identical, the pneumonia of the older children, beginning with the symptoms dependent upon the thoracic organs.

Cough was a symptom in every case, but it varied in different children, and offered changes in its character, corresponding to the different periods of the disease. At first the cough was short, rather dry, it afterwards became more loose, and rather more frequent; towards the close of the disease, when a large portion of the lungs had become impermeable to the air, the cough was extremely feeble, and gradually became extinct. The voice was not altered in its character, but the breath became shorter with the progress of the induration, and both voice and cry became very difficult, and were sometimes wanting in the last days of life. Of course there was no expectoration; but when the mucus secreted in the bronchia was forced out by vomiting, it was whitish, glutinous, but never presented the viscid or rusty-coloured sputa of pneumonia.

The frequency of the inspirations was very great; with one exception not less than thirty-five per minute, generally from fifty to seventy, but sometimes much more frequent, and in one case amounting to more than a hundred per minute. In one case only, the respiration was slow, never exceeding twenty; this patient was emaciated from diarrhœa of some months standing, was tuberculous, and the extent of the pulmonary induration was not great; all these circumstances explain the apparent exception.

The physical signs of lobular pneumonia are at first limited to those dependent on the secretion of mucus into the bronchia, such as the mucous and sub-crepitous rhonchus. The sub-crepitous rhonchus frequently continued throughout the whole disease, and is never replaced by fine crepitus as in the pneumonia of adults; fine crepitant rhonchus is never heard in the pneumonia of young children; but in one or two cases at the Children's Hospital the rhonchus was rather finer than usual, and approached the ordinary crepitus. These cases were however exceptional, and the rhonchus usually regarded as characteristic of pneumonia is scarcely found in young children. Bronchial respiration is not developed until the induration of the lung has extended to a considerable portion of the parenchyma, and then it is chiefly confined to the upper and middle portions of the posterior part of the lung; in the lower lobe it is rarely heard from the comparative smallness of the bronchia, and their prompt obliteration by the progress of the compression. In a third of the cases the bronchial respiration was not distinct, even at the close of the disease. This absence of bronchial respiration is easily intelligible; to produce this phenomenon, besides

the condensation of the lung, it is necessary that the bronchia should not be obstructed, and that the air should be forced through them with a certain degree of force in the inspiration and expiration. In adults, although from the accumulation of mucus, the bronchia are sometimes obstructed, a slight effort of coughing, or even a change of position removes the impediment to the passage of the air, and the bronchial respiration is reproduced; the impetus given to the air passing through the bronchia is always sufficient to produce this sound. Young children cough more rarely, which allows the accumulation of more liquid in the bronchia; they also breathe with much less force, peculiarities which must render the bronchial respiration less distinct. There is however a character of the respiration in this affection which is almost peculiar to it; the inspiratory murmur, instead of being full and expansive as it is in healthy children, is short, obscure, blowing, and almost without the vesicular murmur; this obscure blowing inspiration may be accompanied with the mucous or sub-crepitous rhonchus, or it may be alone heard; the expiration is rarely distinct, unless the bronchial respiration is fully developed, when it is usually louder than the inspiration. This blowing respiration is described with great difficulty, but practice will render it perfectly distinct. Percussion is frequently of more utility than auscultation as a means of diagnosis in lobular pneumonia. The sound is dull on both sides of the chest, but in different degrees according to the extent of the induration; as both lungs almost invariably become indurated at the same time, the sound yielded on percussion must be compared with that afforded by a healthy chest in a child of the same age. A common source of error in the percussion of the chest in young children arises from the comparison made by the observer of one side of the thorax with the other, and as the difference of sound is frequently slight from the similar degree of induration, the erroneous inference is that the lungs are not diseased. When the induration extends to a considerable part of the lung, percussion yields a perfectly flat sound. It is always important to begin the percussion on the posterior parts of the thorax, as the anterior portions of the lung are scarcely ever diseased, and the child frequently becomes restless before the investigation is terminated. It is scarcely necessary to add that percussion should be very gentle and always mediate; for this purpose no plexiметer is so convenient as the back of the finger.

Besides the physical characters of lobular pneumonia, there are other signs not immediately connected with the functions of the thoracic viscera, but still caused by the difficult respiration; these are the signs offered by the countenance, which in children furnishes an im-

portant means of diagnosis. The face is flushed, livid, or irregularly red, in rounded patches on each cheek; the lips swollen and livid red; the nostrils in strong dilatation at each inspiration. These symptoms occur in almost every case if the induration takes place with tolerable rapidity; when it is extremely chronic, the want of respiration seems to accommodate itself gradually to the diminished extent of permeable parenchyma, and the dyspnœa is much less intense. In this more chronic state, the face becomes pale and emaciated, and the efforts of respiration are much less strong, although the mechanical obstacle is not really diminished.

Of the symptoms not immediately connected with the functions of the thoracic viscera, diarrhœa was the most constant. Of eleven cases in which the frequency of the dejections could be ascertained, there was diarrhœa in every case but one. The diarrhœa generally continued throughout the whole course of the disease; in one or two cases it was present at the beginning only; the stools were greenish and very liquid in the few cases in which they could be examined. Vomiting was rarely observed after the entrance of the children into the hospital, but frequently occurred at the beginning of the affection, especially after severe fits of coughing; I have but few observations in which the presence or absence of this symptom is satisfactorily stated, of these cases about two-thirds were accompanied by vomiting. The frequency of diarrhœa coincided with alterations of the mucous membrane of the large intestine. The thirst was always great. Appetite at first not impaired, but nearly destroyed when the dyspnœa became extreme, and apparently absorbed the whole attention of the children.*

The cerebral symptoms varied according to the degree of oppression and the rapidity with which the induration of the lung had taken place. When the disease proceeded quickly and assumed the characters of an acute affection, the dyspnœa was extreme, and the stupor seemed in direct relation with the oppression; sometimes it was so intense that the children were nearly insensible to surrounding impressions. When the pneumonia was accompanied by less dyspnœa, and the disease advanced slowly, the cerebral functions were scarcely impaired.

Treatment.—The treatment pursued by the physicians of the Children's Hospital did not differ essentially from that followed in the pneumonia of older children. The antiphlogistic method was pur-

* The preceding pages might have been increased by an analysis of the anatomical lesions. It is not, however, at present practicable to give a complete treatise; the points of primary interest are alone noticed.

sued, but in the cases I witnessed no blood was taken from the arm; either scarified cups, or what is still better, leeches were applied to the thorax in numbers varying from two to eight. Even this number of leeches should be applied with some caution, as the loss of blood from their bites is sometimes very great. External revulsion by sinapisms, poultices, or blisters was frequently used, and small doses of opium with demulcents were given as internal remedies. The success of these means was so small that their analysis would scarcely lead to any results; I shall therefore reserve until the conclusion any further remarks upon the treatment.

Case. Paquet, a boy, aged two years, entered December 24th, 1832. Anterior health good; cough for the last eight days, and vomiting repeated on several days; diarrhœa for the last four or five days.

December 25th.—Present state. Hair light; eyes not injected; pupils natural; face generally flushed, without rounded red spots; lips rosy; nostrils dilated, in slight motion; emaciation advanced; abdomen distended, apparently tender on pressure; abundant diarrhœa; cough loose, rather frequent; respiration fifty, high, heard at a distance; pulse quick, 116; heat rather elevated; percussion sonorous; mucous and sibilant rhonchus on the left, followed by sub-crepitus when he speaks; on the right, mucous and sonorous rhonchus. Gum water; gum julep with tinct. opii. gtt. x.

On the 29th the respiration had increased in frequency to seventy per minute; cough very frequent; obscure percussion on both sides of the chest posteriorly, and on the upper posterior part of the right side bronchial respiration strongly marked both in the inspiration and expiration; inferiorly the same respiration with some mucous rhonchus: on the left side, respiration bronchial but feeble, with sub-crepitant rhonchus when he coughs. The examination of the chest became more difficult, from the increasing restlessness of the child. On the 3d of January mucous rhonchus on both sides; percussion still obscure on both, posteriorly. On the 8th, the percussion was sonorous on the left side, still a little obscure on the right. On the 13th, percussion sonorous on both sides; auscultation impracticable. Respiration, on the 3d and 4th of January, from 50 to 60 per minute. On the 8th it had fallen to 36, which frequency remained until the recovery of the child. The cough continued during the whole disease, and had not entirely ceased when the patient left the hospital; loose at first, but afterwards becoming harder and less frequent. Heat always moderate; pulse from 100 to 130 per minute, slower before the termination, but counted with difficulty, from the great restlessness of the child; appetite good throughout the whole disease; diarrhœa abundant at first, suspended after remaining two or three days at the hospital,

and again recommencing on the return of convalescence; abdomen always distended with gas; tongue whitish, moist, rosy at the edges. The countenance offered the intense livid colour in rounded circumscribed spots on each cheek, more marked on the left than the right; this appearance continued, with some variations, during the whole disease.

The gum julep with laudanum was continued. On the 28th, a Burgundy pitch plaster was applied to the back; after the 28th the treatment was limited to the gum julep and demulcents. Milk was allowed for diet on the 31st, and a light broth on the 1st.

This case is one of the small number of observations of lobular pneumonia which have terminated in recovery. The disease was easily recognised from the bronchial respiration, cough, oppression, and the peculiar appearance of the countenance. The symptoms were, however, much less severe than in the fatal cases. The diarrhœa was less constant and less severe than in the other cases detailed. The anterior history was not collected by myself, it was given to the house-physician on duty, and of course received without the same strict inquiry which is necessary on the part of a physician collecting a series of observations. The health of the child was said to have been good, it certainly could not have been sufficiently altered to attract the attention of the parents, but slight deviations from the healthy standard could only have been ascertained by a very rigid inquiry.

Recapitulation.—The disease termed pneumonia in adults, characterized by cough, viscous and rusty-coloured expectoration, crepitant rhonchus, bronchial respiration, and in most cases fever and dyspnœa, is observed in children above the age of six years, and is attended in them by the same group of symptoms as in adults, except the expectoration, which is often wanting. This disease is rarely fatal, is almost always limited to one lung, generally to the inferior lobe, and occurs more frequently in the right than the left lung. The morbid appearances found on dissection of the lung, in a single autopsy, were similar in children and in adults; a deep red, granulated surface, from which a reddish, purulent liquid could be forced by moderate compression, indicating the passage between the second and third degrees of pulmonary inflammation, or between the red and yellow hepatization.

Before the age of six years, pneumonia is rarely if ever found with the same characters as in adults or the older children. It scarcely ever occurs in children in good health, so that it was impossible for me to find a single instance amongst the younger children whose parents I had interrogated with care. Instead of beginning abruptly

with sudden pain and difficulty of respiration, its progress is gradual, scarcely exciting attention until a large portion of the pulmonary parenchyma has become impermeable to the air. There is always mucous and often sub-crepitant rhonchus heard in the chest, but never or scarcely ever fine crepitus. Bronchial respiration occurs in many cases at the upper and middle parts of the lung, but in some instances the alteration in the characters of the respiration is limited to a short blowing inspiration without distinct vesicular expansion, and sometimes, but not always, followed by a short loud expiration. The anatomical characters of this variety of pulmonary disease are very different from those of the pneumonia of adults. The incised surface is smooth, shining, homogeneous, with no trace of granulations, and of a bluish-red or brown colour; upon this ground are seen whitish lines, which, if examined, will be found to be the pulmonary vessels. No purulent liquid exudes from this surface, nor does it offer the reddish-yellow aspect of the third degree of pneumonia. If the purulent infiltration ever occurs, it can only be in very rare instances. The consistence of the diseased tissue is much greater than is usual in the hepatization of adults, and is sometimes so great as to offer resistance to strong pressure The induration is at first confined to isolated lobules, which in their hardness and dark colour offer a strong contrast to the surrounding pulmonary tissue. The extent of the pulmonary induration is sometimes much greater than it ever is in the pneumonia of adults, including nearly the whole parenchyma of the lungs. I have seen no instance in which the induration was confined to a single lung; both were always affected. The part of the lung diseased was the posterior margin, including the lower lobe and the posterior part of the upper. This portion was not separated from the healthy parenchyma by a gradual transition from the diseased to the sound tissue, but was generally bounded by a line which would pass through both lobes parallel to the axis of the body; the middle lobe of the right lung which does not extend to the posterior part of the lung, is rarely indurated. The duration of the induration was not fixed, extending sometimes to several months, and offering so great variations that no average time would faithfully represent the duration of the disease.

The name pneumonia is commonly applied to the two forms of disease which we have investigated; these varieties are generally looked upon as so identical, that an eminent physician of the Children's Hospital has stated that few children die without pneumonia to a greater or less extent. There are however so many points of difference betwen the two affections, that it is at present illogical to regard

them as identical. The first variety appears to be an ordinary inflammation of the lung, the second offers much greater analogy with the mechanical obstruction to the circulation of the blood through the lungs, which often occurs in old age; this opinion is corroborated by the fact of its occurrence, only as a secondary lesion in patients enfeebled by disease, and at the posterior parts of the lungs where the blood has a natural tendency to accumulate when the physiological powers are deficient. The lesion known by the name of pneumonia of young children is therefore not similar to the idiopathic inflammation of the lungs, but is a mere secondary lesion occurring during the course of numerous affections of childhood, especially bronchitis, measles, and chronic diarrhœa, and should be described as the lobular induration of the lungs.

The treatment which was pursued was similar to that employed in the pneumonia of older children; but the depletory measures seem peculiarly adapted for the very commencement of the affection, to diminish the quantity of blood passing through the lungs. Opiates were much employed, but the advantages derived from them are very problematical. After blood-letting the use of revulsives on the part affected, or still better over the whole cutaneous surface, offers the greatest probability of advantage. In chronic cases no revulsive is superior to the sulphur bath, made by dissolving one to four ounces of the sulphuret of potassa, according to the strength of the child in an ordinary bath; care should be taken not to prolong the bath if the child appears exhausted, and not to expose the face to the vapour from the sulphur. The treatment presents many questions for investigation, the present inquiry was necessarily directed to those points of the natural history of the disease which could be studied with more accuracy than the treatment at the Children's Hospital. If the pathology of the affection has been rendered less obscure, the operation of therapeutic means can be traced with sufficient precision to estimate their value.

Art. VI. *On the Permanent Adhesion or Incorporation of the Placenta with the Substance of the Uterus.* By J. W. Heustis, M. D. of Alabama.

THE incorporation with, or permanent adhesion of the placenta, either in whole or in part, to the substance of the uterus, is a circumstance of frequent occurrence in obstetrical practice, and one accompanied with embarrassment, and not unfrequently with danger.

The placenta, in such instances, instead of forming a distinct viscus, slightly attached by intervening vessels, appears to constitute, as it were, a portion of the uterus itself, and of the same firm, hard, and resisting texture and consistence. In some women this peculiarity occurs at every pregnancy, in others it is accidental. The immediate and efficient cause in accidental cases, would appear to be a degree of preceding inflammation, or excessive irritation in the uterus, or placenta, or both, as producing a too copious effusion of lymph, and the consequent agglutination of the placenta to the contiguous portion of the uterus, in the same way as the pleura costalis becomes united to the pleura pulmonalis, by inflammation in either membrane. In consequence of this intimate union, the placenta is never detached in the usual time after delivery, but remains a source of irritation, pain, puerperal fever, and a tedious train of dangerous and distressing symptoms, until removed by the slow processes of decay and putrefaction, which are sometimes not finally completed sooner than a month or six weeks.

In cases of this description it should be the business of the physician to remove at the time of delivery, or as soon thereafter as may be, every portion of the placenta that is, or may be conveniently detached. And here I would take occasion to remark that the waiting for the contraction of the uterus some thirty or forty minutes, as usually inculcated by obstetrical writers, is generally neither expedient nor necessary, at least I have never found it so in the course of my experience and practice. Were we to wait for the unassisted efforts of nature to bring about an expulsion, much time would be consumed to the no small inconvenience, pain and suffering of the patient; who, after the birth of the child, is anxious and impatient for the final delivery of the secundines, that she may take the necessary refreshment of repose. Besides, the uterus and powers of the system have been already so much overstrained and exhausted by the birth of the child, that little remain for the expulsion of the placenta. I have, indeed, been called in to several cases of retained placenta, attended by practitioners of moderate experience, where I have found the patients enduring great distress from this very circumstance. I have, therefore, always afforded manual assistance, in a few minutes after the delivery of the child. For this purpose the funis should be kept tense with the left hand, extending it over the forefinger of the right, or vice versa, according to the position of the patient, in the direction of the axis of the pelvis: if moderate force is not sufficient to enable nature to bring about the expulsion, the hand should be introduced so as to grasp the placenta, which, except in cases of intimate adhesion

will generally follow the withdrawing of the hand with very little force.

In all cases of flooding, the rule universally is to deliver the placenta with as little delay as possible. But this delivery we are not always able to accomplish, in consequence of the morbid adhesion existing between it and the uterus; here, then, we must detach and remove without delay as much as we conveniently can, and trust to the partial contraction of the uterus, cold applications, anodynes and astringents for the balance.

By way of illustration it may not, perhaps, be altogether uninteresting to subjoin a case or two out of many that have fallen under my observation. And this I am the more inclined to do from the meagre accounts and descriptions of this disease to be met with in professional writers.

Case I. On Sunday evening, October 2d, 1830, I was sent for in haste to visit Mrs. B. who had been taken in labour the preceding evening; she was a lady of great feebleness and delicacy of constitution, and who had previously borne three children. Her confinement on such occasions had been uniformly tedious, and her convalescence lingering; being generally compelled to keep her bed for at least a month. I had been sent for over night, but being absent in attendance on patients at a distance, another physician had been called in, who had superintended the labour with the manual assistance of a negress midwife. She was delivered in little more than the ordinary time, about 4 o'clock A. M. of a fine, large boy, weighing nine pounds. After waiting nearly two hours, and no symptoms of contractions and expulsive efforts on the part of the womb to throw off the placenta taking place, the exhaustion and debility at the same time being great, together with the appearance of flooding, threatening to prove fatal by every minute's continuance, the attending physician, who was young, but well read and intelligent, expressed his apprehensions to the husband; the latter promptly requested him to do without hesitating or delay any and every thing which he might think necessary for the safety of the patient. He accordingly introduced the hand, and attempted to deliver the placenta, but finding that it adhered very firmly, he desisted. I arrived in a short time afterwards. The physician related to me briefly the situation of the lady, and the course that had been pursued. I found her extremely weak, pale, and death-like, with a pulse, weak, thready, and scarcely perceptible; she complained that she was fast sinking, and must soon die without relief. The extreme symptom, however, of cold sweat, had not yet made its appearance, and was perhaps retarded by the coolness of the

weather. I perceived that there was no time for delay, since the loss of a few more ounces of blood would in all probability have prostrated the system beyond the power of recovery. Having oiled one hand I succeeded in insinuating it into the uterus, guided by the umbilical cord which I held in the other. I found the uterus high up, loose, pendulous and uncontracted. My disengaged hand I now applied to the parietes of the abdomen, embraced the womb, and aided by pressure the other hand within the cavity of the uterus. The placenta was partially detached, but the remaining adhesions were so firm that they could with difficulty be separated; and a portion of the placenta was so firmly united that it seemed to form, as it were, a part of the uterus itself. Embracing, therefore, in my hand as much as was loose, and had been detached, I carefully withdrew it, and was gratified to find that the womb followed the placenta in its descent. A small portion of the after-birth I was under the necessity of leaving behind, to be removed by time. For the purpose of arresting the hæmorrhage, and producing uterine contractions, I used frictions with the hand previously immersed in cold water, applied a cold sad-iron to the region of the uterus, also linen cloths wet with cold water, and finally prevented the further external bleeding by the introduction, *ad plenum* in *vaginam*, of fine linen cloths wet with cold water. The cloths were suffered to remain in vaginam twenty-four hours, and then carefully removed; a slight discharge of blood ensued, though no more than natural, and what might be expected from the gradual solution of the clots *in utero*.

On the fourth day from her delivery I was sent for in haste, and on my arrival was told that a very offensive discharge consisting of "lumps and clots" had taken place from the womb; an occurrence that I had anticipated, though not quite so soon. The patient was in great alarm; I, however, soon quieted her fears, by telling it was nothing more than what must necessarily happen in her situation, and that no danger was to be apprehended. In her weak and exhausted condition encouragement was necessary, though my own hopes and confidence were far from being sanguine. To correct the fetor and to act as a detergent, I directed the daily injection of a weak infusion of oak-bark with alum, and the subsequent use of tincture of myrrh sufficiently diluted. Injections of this kind proving too irritating, warm milk and water were substituted with the best effect; and to subdue the incipient peritoneal inflammation, warm fomentations were applied to the abdomen. From the first she had complained of an obstinate and unceasing head-ache, which she laid to the use of opium, given by the physician who had been in attendance at the time of her

delivery. This was considerably relieved by the application of two small blister plasters to the temples.

On the ninth day I was again sent for in haste, about four o'clock in the morning. I found her with a very considerable fever, and great pain in the side, just above the hips; the pain had been previously wandering, but was now fixed and severe. Her great debility seemed to forbid the use of the lancet, and yet the urgency of the symptoms demanded decided and immediate relief. I therefore ventured upon a small bleeding, and took away a little more than half a tea-cupful of blood, a quantity in her situation proportionably equal to a quart in a robust individual. After the bleeding the pulse became softer and slower, and the pain soon subsided. In a short time after the bleeding a table-spoonful of castor oil was exhibited. I left her much relieved. Visiting her in the evening I found that the pain had entirely subsided, and that the fever had nearly disappeared.

From this time she convalesced slowly, being occasionally much affected with head-ache, particularly in the evening; though for a day or two after the venesection she had been quite relieved from it. On account of this disposition to head-ache I was under the necessity of discontinuing the use of the bitter decoction and quinine. The bowels were much disposed to constipation, a condition that always aggravated her other symptoms. The stomach rejected all the ordinary cathartics; I therefore prescribed senna and manna. These also proved extremely disagreeable in their operation, producing in her weak state great debility and prostration. She was therefore advised to trust the regulation of her bowels to diet, and the daily use of enemata.

About a month after her confinement she was seized with a dull, heavy pain and distressing sensation in the right hip and iliac region, rather exteriorly to the pelvis, and deep-seated; together with numb and dead sensation extending down the thigh and leg of the same side. These were relieved by the use of stimulating frictions and the warm pediluvium.

Her convalescence was finally aided by the use of infusion of colombo and the muriated tincture of iron. Tonics of a more stimulating nature as quinine, decoction of bark and gentian, &c. at an early period were found inadmissible, on account of their exciting a feverish state, and greatly aggravating the pain in the head.

Case II. On the 31st of March, 1832, I received a message requesting me to visit Mrs. B——s, who was represented as being in labour. As the patient was nearly thirty miles from my residence, it was late in the evening before I arrived. She informed me that she had been affected with labour pains for two days, which where sometimes severe,

and that she was in a constant state of suffering and distress. The pains, however, were irregular, erratic, less severe in the side, and more concentrated in the loins. These symptoms, according to her calculation, were six weeks anterior to the completion of her gestation; and were probably brought on in consequence of the fatigue she had undergone a day or two previously, in riding a distance of eight or nine miles in a gig, from her own residence to that of her father's. For more than a month there had been frequent discharges of water from the uterus; previously to which discharge she would suffer much pain and oppression from the accumulation of fluid, and from the distention of the abdomen. These discharges, I have no doubt, proceeded from a rupture of the fœtal membranes, and consisted of the liquor amnii itself: this I infer from the fact that there was no effusion of water during the whole process of parturition.

Soon after my arrival I proceeded to ascertain the situation and progress of the labour. I found the os uteri dilated, and the head of the child presenting about three or four inches from the os externum. Her pulse was frequent, indicating excitement, pain and irritation; as, however, the strength appeared to be but little impaired, and as there was no hæmorrhage, I did not consider that there was any urgent necessity for immediate delivery. She had been bled the day before, and I now directed an aperient, and as there was some soreness of the abdomen, directed warm fomentations. I then left her, with directions to apprise me of any aggravation of symptoms. In the morning I found her much the same; still suffering from irregular and inefficient pains. She was now anxious for delivery, yet apprehensive of consequences. Upon advising with the attending physician it was determined to cut short her sufferings by using the secale cornutum. About eight or ten grains were accordingly given in a little water. In a few minutes the pains increased, and becoming more severe, concentrated and unyielding, the patient was delivered in less than an hour from the time that the ergot was exhibited. The child was small, livid, and almost exanimate; and as the cord still pulsated, the connexion with the mother through that medium was allowed to continue for about ten minutes, at the end of which time respiration was established. The child now assumed a deep, universal, and fiery red, and in several places the cuticle was removed, exposing a raw surface. The fœtus had doubtless suffered greatly from the discharge of the water during the latter period of gestation, deprived of its natural and proper element, and being firmly embraced and compressed by the investing parietes of the uterus, its development was retarded, the circulation impeded, and the skin irritated and inflamed. It lived but about twelve hours.

I had been informed of the dangerous consequences resulting from the previous labours of this lady, and the repetition of the same were again apprehended, viz. retention of the secundines. After waiting the usual time, fifteen or twenty minutes, I deemed it expedient to ascertain the state of the uterus and its contents. The womb was contracted, firm and globular above the pubes, but upon conveying my hand along the cord to the placenta, I found it adherent, firm, hard, unyielding and inseparable, apparently incorporated with the uterus itself. As there had been no separation of the placenta, so there was no flow of blood subsequent to delivery; she was now comparatively comfortable; the nervous and vascular irritation had subsided, and the pulse soft, equable, and natural. Finding that nothing further could be done at present, I left her, with advice to the attending physician, of which the following is a summary. To guard against fever and inflammation, by attention to diet and the state of the bowels, elixir of vitriol two or three times a day; should tenderness of the abdomen come on to use warm fomentations; when symptoms of decay and decomposition should take place in the placenta, to use frequent injections of warm milk and water, and subsequently a solution of the chloride of lime, observing strict quietude and rest, and avoiding every thing of a heating and stimulating nature.

Three days subsequently I again visited Mrs. B——s, I found her quite as well as could have been expected. She had hitherto experienced but little fever or uneasiness. On the day of my arrival, however, there had been some increase of uterine pains, and during my absence there had occurred at one time a considerable gush of blood. Of this, however, there was no repetition; and the presumption is that a partial separation of the placenta taking place, the hæmorrhage was speedily arrested by the prompt contraction of the uterus closing the patulous and bleeding orifices. Decomposition had now taken place in the retained and extraneous mass, as indicated by the fetor. Upon examination, although the cord had been removed, I reached the placenta with little difficulty, the os uteri being patulous, and the other parts lax and yielding; the fimbriated circumference of the membranes hanging loose, so as to be readily seized with the fingers, but their texture was still firm, nor could the placenta be in the least detached by any moderate degree of force that prudence might authorize.

After delivering the necessary directions, which were much the same as those I had previously given, I left the patient under the care of her attending physician, a relative of her's, and a young man of much cleverness and promise in his profession.

I saw her no more, but learned that her recovery was slow, lingering, and painful, although she now enjoys tolerable health.

ART. VII. *Remarks on Cases of Retained Placenta.* By T. I. CHARLTON, M. D. of Bryan County, Georgia.

IN the southern states, parturition is generally an easy and safe process; deformity of the pelvis is a rare occurrence, and rigidity of the soft parts so frequently retarding and rendering labour hazardous in the north, is here not often met with, or easily remediable. I do not think I am hazarding any thing in asserting, that at least one-half of the fatal terminations of the cases of parturient women are attributable to the placenta, either to its partial separation, and the consequent hæmorrhage, or to its retention in the uterus for a length of time beyond the proper period for its expulsion, and to the state of extreme prostration and fever resembling typhus which follows. This last occurrence, (the subject of this paper,) is infinitely rarer than the first or hæmorrhage, and can only be accounted for by the most culpable negligence in permitting the retention to exist so long; or by the unusual circumstance of a portion of the placenta being schirrous and firmly attached to the womb. Having met with cases of this kind, in which the retention had existed from three to six days before I saw them, and having had to treat them more from inference and analogy than from any specific method I could find in books, I have thought it might not be altogether useless to give the history of the cases and the mode of treatment adopted.

Jeanette, a coloured woman, had miscarried four days before I saw her, the child was of the seventh month, and had died within an hour after birth; the midwife had attempted to bring down the placenta by pulling at the cord, which she ruptured; she had also made frequent attempts to detach it from the womb, but said she had found it impossible to accomplish this, the adhesion being so firm as to render it probable that a persistance in the attempt would have inverted the uterus. There had been but little flooding, and the womb had contracted, (according to her statement,) around the after-birth, but not sufficiently so as to make this a cause of retention.

On the fifth day I saw her; her pulse was 120; she had great heat, oppression, head-ache, coma, and in fine, all the symptoms which characterize typhus fever, so called; the fetor from copious discharges of a green water from the uterus was very great; the tenderness of the soft parts made an examination very painful; on making it, I found a portion of the placenta attached to the fundus uteri, which I brought away; it was highly offensive, and more than ordinarily compact in structure; the other contents of the womb were a semifluid

substance, which was no doubt the remaining placenta in a putrescent condition; I brought away a part of this, but as the effort was attended with great agony from the inflamed state of the vagina and uterus, I did not think that a persistance in the attempt to bring away all the contents of the womb would be adviseable. I had in Dewees's Midwifery met with descriptions of such cases, in which he says that the prognosis is very unfavourable, but recommends as a palliative for the local symptoms the use of injections of chamomile tea, with a little quicklime slacked in it. I was led, by seeing the powerful antiseptic effects of the chloride of lime in other diseases, to infer that it might be useful in this instance. I accordingly directed an injection of a weak solution of it to be thrown into the vagina every hour, at the same time small doses of the acetate of ammonia were given every hour, and the free use of gum water and lemonade directed. I did not employ the bark, wine, or any other stimulant or tonic commonly recommended in similar cases, for the reason that I had never seen what was called typhus fever benefited by these remedies, and the constitutional affection in this instance I deemed to be exactly the same with that which is usually called typhus, that is, a gastritis either primarily occurring, or superinduced. In this case the inflammation of the organs of generation, the pain, the mental excitement, were amply sufficient to have produced a sympathetic gastritis. I am borne out in this supposition by the following proposition of Broussais. "Intense irritation of all organs are constantly transmitted to the stomach from their very commencement. If the irritation received by the stomach attains to the degree of inflammation, symptoms of gastritis appear, and as the brain is always then more irritated, it developes in a higher degree the sympathies which are proper to it and may even become inflamed."

In this case there were all the symptoms that occur in primary gastritis—the dark tongue, the muscular debility, the depression, the coma, were all present. I treated it as a gastritis—I withheld all stimulants except the acetate of ammonia, which is the most transient one, and which I have found to be the only one I could safely use in cases of united inflammation and debility: I gave demulcent and acidulated drinks plentifully, and blistered the extremities. The chloride injection, by correcting the fœtor, rendered the patient's situation much more comfortable; the fever also diminished considerably in twenty-four hours after the adoption of the constitutional remedies; the pulse became fuller and slower; the coma disappeared, and in fine, all the symptoms I attributed to the gastritis yielded to the remedies administered for that disease. The soreness of the vagina, &c. was relieved by mucilaginous injections; the discharges from the ute-

rus continued for about a week, at the end of which time all its contents had been discharged, and the lochia were not immoderate.

In a similar case of a young married woman, where the local and general symptoms were even more aggravated by a retention of a week's duration, the same plan of treatment succeeded.

At the time when these cases occurred, I had not read Broussais's Pathology, in which the above quoted proposition is contained, id est, that irritation of any other organ can produce gastritis; but I was familiar with his other works, and was accustomed in the treatment of all diseases to watch for the symptoms of gastric irritation, and to present further indications, for although not as yet well knowing how these symptoms had been brought on, still I had observed that there were few diseases in which they did not appear first or last, and I had always found that the disease was diminished or aggravated in proportion to their intensity.

Bryan County, Georgia, July 23d, 1834.

ART. VIII. *Description of a New Splint for Fractured Clavicle.* By E. C. KECKELEY, M. D. of Charleston, S. C. [Communicated in a letter to the Editor.]

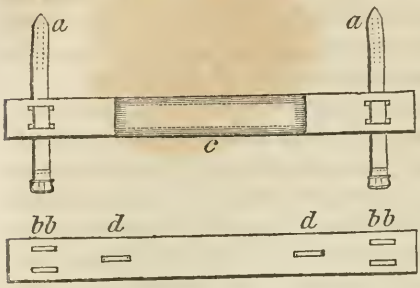
I BEG leave to introduce to your notice a splint which I have used in the treatment of fractured clavicle. I have had but one opportunity of testing its utility, and that one satisfied me that it might be with advantage substituted for the more complicated bandage of DESAULT. It appears to be adapted in an *especial manner* to the treatment of two kinds of cases.

1st. Where the accident which causes the fracture produces so much injury to the parts over which the bandage, if applied, would pass, as to prevent its application.

2d. Where, from the restlessness of the patient and his inattention to directions, the bandage is continually becoming loose, thereby frustrating the object intended to be accomplished by it.

A case of this kind suggested the formation of the splint. A stout, athletic man fell from a height and received an oblique fracture of his clavicle. The bandage was applied. The patient was so restless that as soon as he was left to himself it became loose. Knowing that if things were suffered to go on in this way *no credit* would be gained for the management of the case, a splint was made and applied. There was

no occasion for its reädjustment during three weeks, at the expiration of which it was taken off, the cure being complete in every respect.



The upper figure exhibits a front view, and the lower a back view of the splint.—*a*, *a*, Are two bandages with buckles attached to one end of each.—*bb*, *bb*, Are four morticed holes for the passage of the two bandages *a*, *a*.—*c*, A portion of the splint padded, to prevent its bruising the patient.—*d*, *d*, Two loops of leather, tacked on the back of the splint, for the passage of the bandages, where the morticed holes are too far apart for the breadth of the patient from shoulder to shoulder.

The splint, of which the accompanying figures give a representation, is two feet three inches long and three and a half inches wide.

Mode of Application.—The end of the splint corresponding to the uninjured side is to be pressed close to the back of the shoulder and retained so by drawing the bandage tight, and retaining it by means of the buckle. Previous to fixing the bandage, it should be passed through two loops on a small pad, which is to be placed in the axilla. This pad is used for the purpose of preventing the cutting of the bandage. After passing the other bandage through two loops, on a large cuneiform pad, which is placed in the axilla of the injured side, it is drawn sufficiently tight and secured by the buckle. The last thing to be done is to place a handkerchief, doubled into a triangular form, in such a manner over the arm, the front and back parts of the thorax, as that it shall draw and confine the arm of the injured side close to the body, give it support, and prevent its falling down. By these means the three indications in the treatment are fulfilled.

Charleston, September 3d, 1834.

Art. IX. *On the Vis Medicatrix Naturæ.* By John Dickson, M. D.

In reviewing the speculations and theories of our great predecessors, however fanciful and insufficient we may consider them in their extent and application, we shall seldom fail to discover an important mixture of useful truth, and careful observation. Instead therefore of ridiculing them in the gross, or giving them up to contempt and oblivion, it is often well to study the facts they involve, and sift out the truth from the mass of error with which it was mingled in consequence of their scholastic prejudices and habits of theorizing.

Few of the technical terms of the first founders of medical science are more frequently quoted to point a satiric paragraph in a lecture or essay than that which forms my present subject; few of their high-wrought hypotheses are more familiar to students in this department of knowledge than the scheme which this term presents to view. I need not therefore quote at length.

It will plainly appear, I think, on a candid examination of facts, that there was much truth, and very important truth, couched under this fanciful personification: and it is with a design to present some of these facts or general principles in a connected and impressive view to younger members of the profession that I have selected the subject. The results of these facts or principles will be seen to be practically the same as if such a personification were real and influential in the system, and this may teach us neither to despise the works of the more ancient writers, nor to neglect to examine for *ourselves* the most ingenious disquisitions of the authors that now take the lead and stamp their image on all the doctrines current in the present day.

1. The *first* great principle I shall mention, which seems to give some countenance to the theory alluded to, is *the reäction of certain vital powers against certain morbific agents.*

I am well aware that the term *reäction* is so often vaguely used, that all the ridicule directed against ancient theories may be legitimately levelled at some of those which have succeeded. Still as it is with *things*, not *words*, we have to do, I shall not despair of being understood. By reäction I mean an excitement of some vital action, (such as Good calls instinctive,*) *succeeding* the effect of an application of external causes. This succeeding vital action often *appears* to be little if at all correspondent in its nature with the previous actions or states of the system. We cannot always trace the connexion philosophically, but experimentally, (if it be proper to make the distinction,) we are compelled to notice the fact. It is always, however, a vital, and therefore a natural action which is thus produced, and when we have learned to expect its occurrence, we may be said to depend on a kind of *vis medicatrix naturæ*—a provision in the system for contingencies to which all the race must be exposed.

The literal meaning of the term *reäction*, though not applicable to medical subjects, may serve to illustrate the truth which it figuratively expresses. When an elastic body is compressed by a given force, so soon as that force is spent the elastic matter resumes its

* This celebrated author attributes instinct to the mere material of vegetable as well as animal forms *or parts* whilst they are alive.

former extent and shape. So a morbific power being exhausted in producing a certain impression, there may be a nisus or tendency to return with a force proportioned in some manner to the previous impulse, into the original or some other native state; and as the rebound of an elastic body will under certain circumstances carry it further back than the point whence it set out, (as when the force of impulsion is greater than that of gravity,) so the reäction may often exceed in violence and extent the diseased influence impressed in the first instance on the system. But I hope I shall not be thought guilty of attributing to these remarks any value beyond that which they have as similies or illustrations. They are not philosophical or scientific principles, but mere comparisons, and the use here made of them may serve to show how we may justifiably and profitably employ the fictions of our predecessors; they may often happily elucidate what they cannot prove, and assist us in that study which they ought not to supercede. Elasticity here is not *identified with*, but only *compared to* vitality.

I shall not enter at this time into an enumeration of all the reactions capable of being produced in the system, or the agents concerned in their production. This would be a highly interesting and useful work, and it is here suggested to those who have learned more of pathology than I can profess to have done.

2. *Another* principle to be here considered is the incompatibility existing between the diseased state produced by a given agent, and the present condition, either natural or diseased, of some other part or parts of the system. It is well-known that certain actions of the system or of its organs are so associated with others that the commencement of an action of one part or organ is at once attended or followed by a particular action of another part or organ. This arrangement often gives a check to the morbific agency of powers or principles eminently destructive to life—powers that are capable of suspending some of the vital actions. The strength and health of one part or organ thus becomes the strength and health of other portions of the system.

The sympathy or association between organs or parts of the body, whence the incipient or increased action of one excites another whose action is curative of the excessive action of the first, is a matter of experience and common observation; and this is but another way of stating the same principle. And it may be added that even when the sympathy brought into action does not directly involve a curative tendency, diseased excitement may be lessened in a particular organ by being diffused or extended to others, which are intimately associated with that organ. Under this general head we may place perhaps the effect of derivatives, and the resolution of inflammation in

some circumstances. Further from the natural combination of certain actions, such as are not interrupted or weakened by the morbific cause, often start and support those which are interrupted or impaired.

3. Certain diseases, it is admitted, have a natural course which they run through and then cease. It may, for aught we know, be true of all diseases, or of any disease whatever, in a constitution sufficiently strong to endure the continuance of the disease throughout its various stadia. Some of those diseases which are known to have such a regular and natural course kill the weakly, while the strong live through them. Now the supposed vis medicatrix may very well be imagined to be in operation in some cases of the latter kind, where the disease existing is not known or believed to have such a natural course ending short of a fatal event.

4. Habit, a power, (shall I term it?) still so little understood or estimated, is in many cases the true *vis medicatrix naturæ*. It continues the vital actions in spite of the deteriorating effect of disease, and often seems to sustain life or the continuance of existence, where the vital actions are scarcely performed. Nothing else seems sufficient to explain the maintenance of life under the most unfavourable circumstances in certain cases; and this we are compelled by facts to receive as the sufficient reason.

5. Life itself, the unknown principle which we may just consider as the antagonist of disease in every part—life itself is deserving of this long disputed title. All the powers of the body may be with strict propriety resolved into this, i. e. life, for whatever may be the qualities of the mere matter of which the frame is composed, no purposes of animal existence can be answered by the relation between that matter as such, and the external world. Life includes every organ with properties entirely distinct from any thing it possesses, considered as a mere mass of a given chemical composition, or weight, or form. No sooner is it withdrawn than chemical actions take place, which could not otherwise be effected. And what is of more importance in this place, it is only while life is continued that any curative means we institute can produce the appropriate effect. The chemical action of a substance introduced into the stomach is not, (at least generally,) the effect we aim at when we administer it as a remedy. The chemical action might take place after the extinction of vitality in the organ to which it is applied, but its effect as a remedy would then be looked for in vain. I have purposely omitted the consideration of surgical cases in which the thing is obvious to the eyes.

From these reflections we may I think perceive the force and propriety of such language as that on which we have been animadverting. The principal evil no doubt arising from the employment of such terms

is that from their indeterminateness, the student is at a loss how to apply them, and may even at length almost forget that he is dealing in mere personification, while he brings in as real agents to cut the knot of every difficulty he meets with, those qualities which have no existence by themselves but must inhere in something tangible and evident.

To show the necessity of caution in this respect, and to assist the student in exercising it, are the objects in view in these brief paragraphs.

ART. X. *Observations on the Treatment of Gun-shot Wounds, Ulcers, &c.* By PAUL F. EVE, M. D. Professor of Surgery in the Medical College of Georgia.

A PRINCIPAL object of this communication is to lay particular stress upon the importance of dressing wounds and recent ulcers with the chlorides of lime and soda. The most intelligent surgeons now depend upon fine lint kept wet with cold water, leeches, sometimes emollient poultices, perfect repose, depletion, &c. in the treatment of gun-shot wounds, which, together with the chlorides, will be found superior to any plan yet proposed. This treatment combines the advantages of the materials required being easily obtained in almost every situation; of a most efficacious disinfecting agent which is of much importance in camps and hospitals being employed; of being decidedly the most agreeable of all other methods of treatment to the feelings of the patient; and lastly, of greatly accelerating the healing process.

The manner of using the chlorides is in solution in water. As a general application to wounds and recent ulcers, an ounce of dry chloride of lime to two pints of water, or two drachms of the chloride of soda, (of Labarraque,) to a pint of water, is found to be the best proportion. Confessedly, no agents of the Materia Medica possess greater disinfecting properties; but however satisfactory the chemical operation in this process may be understood, the same facility or perspicuity of explanation is not apparent, by which they promote healthy granulation and cicatrization. While speculation is purposely avoided, it may be inquired, does not the very union of the chlorine gas of the chloride with the hydrogen of the watery particles or gas secreted by the surface of a wound or ulcer, produce an alteration at once destructive of putrefaction and irritating matter? and besides the result of which combination, we have the alka-

line base, soda or lime, the action of which is known to be salutary in such cases.

Of the two preparations, the preference is given to the chloride of soda for recent solutions of continuity. A tea-spoonful of this article in a pint of water imparts to it an oleaginous appearance and sensation when touched, which any quantity of the chloride of lime never does, and this fact cannot therefore depend, as has been suggested, on the superior causticity of the one over the other. It is conceived that this very impression of the solution in water being milder, renders the chloride of soda better adapted for recent wounds than the same preparation of lime.

These agents I have found strikingly useful in gun-shot wounds accompanied with primary or secondary hæmorrhage, or luxurient granulation. The medium through which they were applied, a pledget of lint, operated by compression in arresting the flow of blood, or suppressing the fungous growth, and the chloride at the same time improving the appearance of the exposed surface. In these cases, as well as in others where they are applied, the lint may be kept wet through the day, or the solution only occasionally poured over the dressing. The chlorides are also found serviceable for fistulous openings and sinuses; in fact, their use is extending over a wide field of surgery.

On the second subject proposed for consideration little will be offered, being content to refer the reader to the excellent article on amputation, in the fourth number of the Cyclopedia of Practical Medicine and Surgery, from the pen of Professor Geddings, of Baltimore. This contains the opinions of nearly all authors on the subject, and the views of the intelligent writer are similar to those of the Lecturer on Surgery delivered in our Medical College. Operations which a few years ago were complicated with a multiplicity of instruments, and thereby requiring much time and labour, are now performed, with ease and celerity, with very few. I have never employed, except in my first amputation, more than one knife, and have never dissected the skin for the purpose of turning it up like the cuff of a coat, with the one exception, believing it now in any amputation useless and unnecessary. No difficulty has been experienced in securing sufficient skin to cover the stump by the hands of an assistant drawing it up, and, with the point of the amputating knife, dividing the bridles of cellular texture, even over the spine of the tibia in amputation below the knee. The triple circular incision is considered best adapted to civil practice, whether in amputation of a limb containing one or two bones. In the latter case, a long catlin, or narrow, double-edged knife, is preferred to all others; and as for dressing the stump, the day may not be far distant when a simple

roller bandage, and a solution of the chloride of soda or lime, will constitute the whole apparatus.

The following cases may not be inappropriate to the present subject. A healthy boy, about fifteen years of age, had been exposed to a snow storm in last January. When discovered, his feet were frost-bitten, and were then very injudiciously put in warm water. In this state he was thrown across a horse, and, without a saddle, rode about thirty miles. A spontaneous separation commenced in a week or ten days at the ankle-joint, and, in consultation with the faculty, it was determined to remove both legs below the knee. The circular operation was performed on the left leg, and when the hæmorrhage was secured, the right was also removed in the same manner; both amputated in the space of about two hours. The patient complained more during the second amputation than the first, but his system suffered comparatively less from the last. It being a fair case to test the difference between torsion of the arteries and ligatures, the attempt was made on one stump to secure them with the forceps of Amussat and Graefe,* but owing to the difficulty of drawing them out, a difficulty peculiar to this amputation, and which the most experienced surgeons have acknowledged, it was reluctantly abandoned, and ligatures were applied to the vessels of each leg. The stumps were wetted frequently with the chloride of lime, the first dressing removed on the eighth day, adhesive plaster employed but *twice* in the after-treatment, and the chloride freely used. On the *tenth* day after the operation, the patient rode the distance of six squares of our city, and on the *fourteenth*, in less than *two weeks*, he went into the streets of his own accord.

In another case of amputation, (of thigh,) also for sphacelus, under the same treatment, the patient went into the kitchen, a distance of about twenty yards, on the *twelfth* day after the operation.

If it be now considered that these operations were performed for the worst causes of amputation, viz. gangrene and sphacelus; and that of one hundred and twenty-three wounded soldiers thrown into a military hospital,† forty-two were cured and able to reënter the army, and thirty-eight were nearly well, in all eighty cases, in the space of two months, the dressing of whose wounds was chiefly the chloride of lime and soda, a sufficient estimate may be formed of the utility of the chlorides in the treatment of wounds and amputations, to claim some attention in the operations of surgery.

* A description of the same forceps is claimed by Professor N. R. Smith, as his own invention.

† That of the Sappers, at Warsaw, to which the author was attached.

Augusta, June, 1834.

ART. XI. *Case of Wound of the Genitals.* By JAMES B. M'JUNKIN, of Lexington, Georgia. [Communicated by S. H. DICKSON, M. D. Professor of the Institutes and Practice of Medicine in the Medical College of the State of South Carolina.]

ON the night of the 14th of July, 1832, J. A. æt. 39 years, was attacked by a ruffian, who, aided by two negroes, seized him while asleep in his own bed, held him fast, and committed upon him the inhuman outrage which I am about to describe.

Grasping the scrotum with his left hand, he passed his knife through it posteriorly, cutting it close to the body, on the right side. This incision, which was nearly transverse, divided the urethra and the greater part of the crura of the corpora cavernosa penis, leaving the anterior face of the scrotum attached to the under side of the penis unhurt. The point of the instrument was directed inward and upward in the right groin, and brought out a little lower under the left. The spermatic cord of the right side was severed at the same time just above the epididymis. A second incision was then made, two inches and a half in length anteriorly, meeting the former at the right of the root of the penis, and carried in a direction toward the superior spinous process of the right ilium; this was not deep enough to wound the left spermatic cord, but merely penetrated the skin. A small angular piece of integument was thus left undivided by the knife, on the left side of the penis. This was lacerated by dragging forward the scrotum; the skin of the penis was inverted over the glans, and the member denuded, and the right testis cut and torn off. The left testicle, now completely exposed, was retracted into the groin.

In this situation J. A. was found by Dr. POND and myself, who saw him three or four hours after the receipt of the injury. Dr. HILL was also subsequently associated with us in the treatment of the case. The patient had lost much blood, but the hæmorrhage had now ceased. He suffered much pain, which was, however, entirely relieved on our dividing the inverted fold of skin which lay over the spermatic cord and left testis, and in contact with the latter. The wound was so extensive that but a small portion could be covered by integument. A narrow strip of lint, spread with simple cerate, was rolled around the denuded penis, and the parts covered and protected with finely carded cotton. The daily renewal of these dressings was followed by great pain of the testicle, which would continue some hours. The escape of urine at the wound in the urethra also occasioned great irritation and suffering, the patient refusing obstinately

to submit to the introduction of a catheter or bougie, which was urged upon him. About the fifth day the urine found its way through its natural channel, the edges of the wound having coalesced; but this union gave way again on the occurrence of nocturnal involuntary erections. A few days afterwards these ceased to happen, and permanent reünion took place; but, owing to some irregularity in the manner of healing, there still remains a degree of narrowness at that part of the urethra, and some obstruction to the free passage of urine. On the third day there supervened much febrile excitement, with stupor and soreness of the abdomen; but these threatening symptoms disappeared under the employment of the lancet and other ordinary antiphlogistic remedies, and the patient was discharged in about ten weeks.

In Mr. A.'s present condition, the parts exhibit the following aspect. A pretty strong, smooth, elastic envelope now encloses the testis, supplying the place of the scrotum. This sac is destitute of hair, and is not at all rugous. The testicle having suppurated at one small spot, the sac is united to it by the cicatrix which formed on its healing, and in consequence of this adhesion is not permitted to descend, but remains near the groin; a situation much exposed to accident, and where it is often hurt. A tense, smooth surface covers the membrum virile, resembling a cicatrix from a superficial burn. The mucous fold of the prepuce having been detached from its cutaneous prolongation, is coiled behind the glans, giving the appearance of a double corona or ring. Adhesions and contraction of the cellular tissue, especially at the posterior extremity of the penis, greatly prevent the erection and elongation of the organ. This is particularly obvious at the wound of the urethra and under the ramus of the pubis, where the penis appears as if tied down with a cord, occasioning irregular incurvation posterior to the place of the incision. A condition resembling chordee also existed for some time after the parts were healed, causing much pain and disappointing his attempts at copulation, but by dividing the frenum preputi, this impediment was much diminished, though not entirely removed.

He now enjoys a pretty good state of health, being able to attend to his usual avocations, but is easily liable to a sense of fatigue in the lumbar region. The propensity for venereal gratification is perhaps as strong as ever, but the actual enjoyment is much impeded by the state of the organs above described.

REVIEWS.

Art. XII. *Surgical Essays, the result of Clinical Observations made at Guy's Hospital.* By B. B. Cooper, F. R. S., Surgeon to Guy's Hospital, Lecturer on Anatomy, &c. &c. &c. London, 1833. pp. 281, 8vo.

THERE are few works possessing more interest for the profession than those which detail with accuracy the result of hospital practice. They furnish us with a clear view of the existing state of medical knowledge among the distinguished practitioners of the age and country in which they are written; they furnish the best tests for ascertaining the comparative merits of conflicting doctrines, and when measures are exploded and their teachers no more, they remain as the most efficient materials in the hands of the historian of the science, for determining the extent of gratitude due by posterity to those who have truly aided the cause of humanity. In France, of late years, much has been done in this department; cases are detailed with the utmost care, and the appearances after death are described with a degree of minuteness that seldom leaves any thing to be desired which can be known in the existing state of physiology. These narratives, given by men of deserved eminence, are drawn up under the eyes of numerous and competent observers, and are afterwards laid open to the rigorous censorship of rivals who seldom leave untouched a single debateable point either in fact or theory. The consequences of this system are obvious; French hospital practice is much better known abroad than that of any other country; the clinical observations made at L'Hotel-Dieu, La Pitié, La Charité, the Hospital of Montpellier, &c. are mostly within our reach; the vast accessions of pathological knowledge thence derived are universally acknowledged, and of the value of the therapeutical treatment pursued in those institutions all are enabled to judge for themselves.

Our information with regard to the medical institutions of Great Britain is much less complete, both as to the number of cases published, and as to the fulness of the detail, and we hail the appearance of this little work, by the nephew of Sir Astley Cooper, because it in part supplies the deficiency. These essays consist essentially of a series of highly important cases, covering considerable

ground in some of the most interesting departments of surgery; they treat of fractures, diseased joints, dislocations, and wounds of the abdomen. The arrangement of the work deserves decided praise. Each essay is preceded by some short notice of the general principles which should govern the treatment of the class of accidents of which it treats; then follow numerous cases illustrative of those general principles, and to almost every case is appended some remarks with regard to its especial application. A collection so various in its character scarcely admits of analysis, and we shall attempt nothing further than a running commentary upon such passages as strike us in a novel or particularly interesting point of view.

The author commences with some remarks "*On the Physiology of the Growth and Reparation of Bone.*" Referring to his work on anatomy, previously published, for a more detailed account, (which, unfortunately, is not a great deal more detailed,) of the physiology of the osseous tissue, he presents us with seven pages on the application of this subject to the treatment of fractures. We are happy to observe that the terms *table* and *fibre* are rarely employed in this article, nor is much said of rings or plugs of callus in the cure of fractures. We wish not to express an opinion that these terms, when attended by the necessary definitions, are wholly inapplicable to the structure of bone, but mere names have often exerted an important influence upon practice, and the crude and mechanical notions of the earlier anatomists, together with the distant and almost wild analogy of Duhamel, have associated in the minds of many the ideas of the tabular and fibrous arrangement of bone, with certain forms of inorganic or of vegetable matter, to the no small prejudice of the treatment of its accidents and diseases. The truly cellular structure of all parts of the skeleton, inferred by Haller, more clearly described by Howship, Bichat and his followers, and experimentally proved by Scarpa, is clearly enforced by Mr. Cooper, in terms which at once foreclose the much vexed question as to the comparative importance of the periosteum, the medullary membrane, and the solid texture in effecting the reparation of bone in fractures. He speaks of the internal and external periosteum and the cellular tissue connecting them collectively by the one general term *periosteum*, (p. 9,) and he considers it as enclosing the bone in the same manner in which the neurilema encloses the substance of a nerve, or in which the cellular sheath and its septa enclose and divide a muscle, its fibres, and the globules of which those fibres are composed. Nor does he neglect the facts, that the osseous tissue, thus constituted, is subject to all the vital laws which govern other parts, and that in cases of

necessity other parts and organs may be converted into periosteum, and contribute to the reproduction of osseous matter.

In speaking of the gradual development of the various parts of the skeleton, so strictly regulated by the increasing wants of the animal—those first employed being always first perfected—he rejects all explanation founded on that metaphysical abstraction of John Hunter, "*the stimulus of necessity*," and advances the position which, if memory serves us, is also advocated by Sir Astley, that the exercise of the function of a part is the proper stimulus to ossification in that part. It is to be feared that in assuming this position he has fallen into the very error he endeavored to avoid, and has trespassed a little beyond the barriers which should limit physical research. Be this as it may, we feel bound to contend against the practical directions given in accordance with this supposed law. He recommends that in pseud-arthrosis, the limb should be supported by a suitable apparatus, and the patient directed to employ it as usual, in order that the shocks, the pressure, the "stimulus of exercise," should bring about the ossification of the callus. This is an error, even in the application of the law, for the effect of such treatment is evidently to cause repeated and irregular motion in a part designed to be constantly in a state of relative rest—to cause the fragments of a bone to perform functions for which nature never designed them. Motion in an ununited fracture can seldom be entirely prevented by mechanical contrivance, while the limb is exercised with any degree of freedom. Now, motion being the proper function of a joint, the law laid down, if it be general in its application, should lead us to infer that the treatment prescribed would tend to produce a joint, or, in other words, that it should diminish rather than increase the strength of union in a pseud-arthrosis. Experience has taught us that such is the effect in many cases, and if the plan prescribed does occasionally answer the end in view when the union has already acquired considerable firmness, the fact may be explained on different principles. These remarks are in strict accordance with the views of Mr. Cooper himself. "The elasticity of cartilage," he says, "is maintained by the constant concussion produced by exertion," (p. 5,) and it is singular that he should not have perceived the inconsistency between the proposition above stated, and the practice which he has founded on it. The subject is an important one, and we may be excused perhaps for one additional remark. There is no rule of practice better established than that repose of the fragments is necessary to the union of a fracture, and this fact should never be lost sight of when we attempt the cure of pseud-arthrosis by producing

friction between the extremities of the bone. The proper degree of irritation once effectually produced, it is wholly unphilosophical to continue the painful and repeated frictions sometimes employed, which must retard instead of accelerating the ossification.

The next subject taken up by Mr. Cooper is that of "Fractures in General," under which head he includes many particular fractures, a very considerable number of cases in full detail, and indulges in many collateral remarks on injuries of the viscera resulting from fractures of the cranium, ribs, and pelvis; the whole subject being embraced in one hundred and twenty pages. Of course little space is allowed for dilating on general principles, and too much is frequently sacrificed for the sake of brevity. The cases constitute the most valuable part of this as of all the other essays.

Our space compels us to pass rapidly over the surface of the work, confining our view to such points only as rise up in strong relief and enforce attention. After a very hasty outline of the distinctive marks of compression, concussion, inflammation, and abscess of the brain, occasioned by fracture of the cranium, the author says—

"The treatment of both concussion and compression are the same so soon as reäction has taken place; which, however, is sometimes so slow in making its appearance, that it becomes necessary to employ stimuli, to restore the patient sufficiently, that he may be enabled to bear the means necessary to be employed." p. 13.

Then follows an enumeration of the vigorous antiphlogistic and concomitant treatment required in the sequel, such as a purge of calomel, bleeding *from the temporal artery or jugular vein*, cold to the head, sinapisms to feet, small doses of sulphate of magnesia frequently repeated until the bowels are freely opened, and, finally, a blister to the scalp, if the application of cold proves inefficient. Mr. Cooper then demands, "If all these means fail, under what circumstances is the trephine to be applied?"

This complete intermingling of accidents so dissimilar in character as simple concussion and simple compression of the brain, is to us somewhat startling. In the former, the first indications of treatment are obviously the restoration of the nervous energy, diminished by the direct effect of the injury at the moment of the accident, and kept up simply by the consequent weakness of the part without any continued mechanical cause. If the powers of nature are insufficient to accomplish this purpose without assistance, it may be proper sometimes, but certainly rarely, to call in the aid of stimuli; when reäction is once established, the measures laid down, with the exception, perhaps, of the choice of vessels for bleeding, will be

approved by every one. But in the second class of accidents, we have the action of a continued mechanical cause, which, in a large majority of cases, can only be opposed by mechanical treatment. If the symptoms of compression are clear and decided before reäction, what is to be gained by delay? Above all, upon what principle can we defend the exhibition of stimuli to favour reäction under such circumstances? When reäction comes on, and is followed by urgent symptoms of compression, if the cause and location of that compression can be detected, every thing calls for promptitude in the employment of mechanical means, without waiting to ascertain whether the measures laid down for combating reäction will fail or not. We believe that the trephine is employed unnecessarily in many cases, but it is more than probable that the mortality following the operation, when imperatively demanded, is in no small degree owing to the tardiness of many operators. Without feeling disposed for a moment to charge the author with a disposition to unnecessary delay in practice, we cannot but consider the work calculated to lead other less experienced men into this fault. The error is almost a necessary consequence of the attempt to lay down in four short pages the distinctive characters and proper treatment of a class of accidents of the most difficult and perplexing nature, and which could not be properly discussed within the space devoted to the whole essay.

In the remarks upon fractures of the pelvis there is nothing to arrest us particularly, but among the cases appended to this section on injuries of the flat bones, are several of very high interest. The first is a case of fracture of the basis of the cranium, accompanied by slight depression of a portion of bone at the posterior, inferior angle of the right parietal bone. The symptoms of compression were urgent. A fragment was removed by Hey's saw, and the remainder was elevated. Some overlapping of the fragments continued, but all signs of compression disappeared, and though the patient was afterwards strongly threatened with inflammation of the brain and its meninges, he promptly recovered. This case beautifully illustrates the fact that a very slight depression may sometimes produce very serious danger, and that fractures confined almost entirely to the basis of the cranium, are not always beyond the reach of mechanical relief. The next case, and the remarks on it are intended to show that a serous discharge from the ear in injuries of the base of the brain, renders the prognosis more favourable. The third is very singular—a gig wheel passed over the head of the patient, and the occipital bone was completely divided from its apex to the foramen magnum in a

perpendicular direction! doubtless by the effect of the side-thrust of the lateral arches of the cranium, constituting one of the varieties of contre-coup. The case terminated in death from hæmorrhage on the base of the brain. Passing over a case of hernia cerebri, with some interesting remarks which we cannot pause to analyze, we find a very interesting operation for a disease of the os frontis produced by several blows upon the part occurring at distant intervals of time, and giving rise to epilepsy and partial paralysis; a perfect cure was effected by the removal of the diseased bone at least one year after the last accident. The inner table of the cranium was greatly and very unevenly thickened, and rendered like ivory in hardness. This section closes with two cases of fracture of the pelvis and one of diastasis of the symphysis pubis. The last case was productive of permanent irregularity of the superior anterior spinous processes of the ilium, but the consequent lameness was slight.

The succeeding section treats of *fractures of the spine.* Mr. Cooper, in speaking of operations for elevating depressed portions of vertebra in cases of compression on the spinal marrow, such as have been performed by Mr. Cline and Mr. Tyrrell, but have been most strenuously opposed by Mr. Charles Bell, expresses his belief of the general hopelessness of such cases, but thinks the operation sometimes warrantable. p. 40. We do not recollect that it has ever been successfully performed in America. Among the diagnostic signs of injury to the spinal marrow, Mr. Cooper enumerates a suffusion of the countenance, a symptom that he has not seen mentioned by other authorities, and which he attributes to the imperfect decarbonization of the blood consequent upon the embarrassed state of respiration. This symptom has been strongly marked in several cases which we have seen of concussion of the spine high in the dorsal region, but which have terminated favourably. In similar injuries about the lower dorsal and lumbar vertebra it has not been remarked, and it would be interesting to know if it is attendant upon fracture with depression in those portions of the column. Among the cases narrated is one in which there existed no fracture, but a laceration of the intervertebral substance between the fifth and sixth cervical vertebra, and death followed the usual train of symptoms attendant on fracture, although there was no lesion of the spinal marrow, and but slight marks of inflammation of the dura mater.

On *fractures of the ribs and sternum* there are a few remarks and some interesting cases which we pass unnoticed that we may not prove too prolix, although some of the aphorisms of the author afford room for debate. Under the head of *fractures of the short bones*, how-

ever, there is detailed one case so extraordinary that it must be mentioned. It is that of a woman thrown down by a horse in full career.

"All the soft parts of the right side of the face were detached from the bones, which were most extensively fractured. The lower jaw was fractured in two places, the superior maxillary and palate bones were broken through their palatine processes, so that the roof of the mouth fell upon the tongue, and a fissure extended through the body of the superior maxillary bone, into the antrum, and upwards into the orbit; the malar bone was broken through, so that the zigomatic arch was flattened; the bones of the nose were driven in, and in fact, it may be said that every bone on that side of the face was fractured, and many comminuted." p. 60.

In this horrible case the comminuted portions of bone were removed, the side of the face denuded of its integuments, which are still preserved in the museum of Guy's, was covered with lint and kept cold by allowing water to fall constantly upon it. Antiphlogistic measures were steadily pursued, and the patient recovered "without a single bad symptom supervening." Numerous portions of bone, however, exfoliated, and protracted the cure.

Mr. Cooper next proceeds to give some general observations on fractures of the long bones, and some of his remarks are highly important. He particularly blames the unreasonable habit of most surgeons in giving preference to one particular machine or position in the treatment of all the varieties of fracture which may occur in any one bone. There are indeed but few among the vast variety of contrivances for the treatment of fractures that may not prove occasionally valuable, and there are certainly none which enjoy superior merit in all the accidents of this nature occurring in the limb or part for which they are designed. The surgeon who would invariably employ either of the modifications of the splints of White, Desault, or Brunninghausen, in all fractures of the thigh, whether seated just above the condyles, just below the trochanter minor, or in the middle of the shaft, would lay himself open to well-deserved censure.

In speaking of fractures of the femur within the capsule of the hip-joint, he defends the peculiar views of his uncle, upon the possibility of bony union in such cases, against the hostile reasonings of Mr. Earle. We shall not enlarge upon this much-vexed subject, but cannot forbear the remark that the weight of the thirty years experience of Sir Astley Cooper, great as it unquestionably is, looses a portion of its value, when it is remembered that the plan of treatment pursued by that surgeon is not at all calculated to preserve that accurate coäptation and permanent immobility of the fragments so necessary to the accomplishment of complete reünion in any fracture, how-

ever situated: and although the practice of placing the limb in a gently-flexed position upon a bolster and pillow may be a very comfortable one in hopeless cases, we cannot regard it as calculated to reduce the consequent lameness to a minimum even when the union is ligamentous. Sir Astley admits that in fractures of the neck of the femur unattended with complete disruption of the periosteum, bony union may take place; but when Mr. B. B. Cooper asserts that all the cases brought forward in opposition to the views of the former surgeon are of this character, we conceive that he begs the question, for according to our memory, the remarks of M. Roux and others who have taken part in the controversy, by no means permit the establishment of this fact beyond the possibility of doubt. Without attempting to pronounce a decision on the question at issue, we may mention that we have certainly seen an undoubted case of fracture within the capsule with very considerable shortening and evertion of the limb, and consequently with complete rupture of the periosteum, cured at the Pennsylvania Hospital without material lameness or perceptible extensibility of the bond of union, by means of Physick's modification of Desault's splint; a result hardly to be expected in treating any case treated without the aid of any apparatus, as is recommended in the work before us. There is a very interesting case given by the author, in which the periosteum was so little injured that the coäptation of the fragments continued perfect. The limb was not confined, but was on the plan above noticed, and at the end of fifteen days when the patient died, the usual cup and ball pseud-arthrosis peculiar to this fracture was already far advanced, showing the injurious effect of motion under the very circumstances which are acknowledged on all hands to admit of bony union. p. 72.

At page seventy-three we are presented with one of the rarest accidents of the femur; namely, fracture detaching the trochanter major from the body and neck of the bone. After some time and much difficulty the character of the accident was detected by means of the contracted and knotty appearance of the gluteus maximus muscle, and coäptation was so nearly completed and maintained, by attention to position and the application of compresses and bandage, that scarce any trace of lameness remained. The case is one of very high interest, and reflects great credit on the surgeon. We are the more anxious to acknowledge this, because we are now about to enter upon the description of accidents touching the mechanical treatment of which there can be little accordance between the English and American schools of surgery. The influence of the prejudice of Pott in favour of an undue dependence on mere position in fractures, and a

certain degree of national antipathy to French surgery, have thrown the profession in Great Britain far behind the rest of the world, in the management of fractures requiring continued extension, and though both these causes have almost ceased to operate within the last few years, long-continued habit renders the necessary reform but too gradual in its progress.

"When the fracture is very oblique," says Mr. Cooper, when speaking of fractures about the middle of the shaft of the femur, "it almost invariably requires the straight and continued extended position to maintain the fractured extremities of the bone in apposition; but on the contrary, when the fracture is very transverse, the surface of the upper fractured portion offers a sufficient and convenient obstacle to the lower portion being drawn upwards and inwards by the muscle." p. 78.

To the first clause of this sentence almost every American surgeon will yield a ready assent, and it is only to be regretted that the requisition is not so strictly attended to, as might be thought desirable, even in the cases afterwards detailed. But with regard to the second clause we cannot omit some remarks, in which we are compelled to disagree not only with Mr. C. but with the whole weight of systematic authority. In the first place then we do not believe that it is possible to determine, except perhaps in cases of great emaciation, when a fracture in the middle of the shaft of the femur is really transverse; unless it is assumed that the absence of longitudinal deformity is a proof of the transverse direction of the fissure, and the presence of such deformity an equally certain indication of its obliquity; neither of which positions is tenable. A limb may retain its full length, after very oblique fracture of the shaft of the femur, in consequence of the feeble action of the muscles produced by the collapse in severe injuries, as we have seen in a case in which the near approach of the superior fragments to the skin, consequent upon extensive laceration of the muscles, placed the character of the accident beyond a doubt. We have also met with a case of complete comminution of the femur from within three inches of the trochanter minor to a point about equally distant from the condyles, unattended with any shortening of the limb. In neither of the cases was it possible to account for the absence of overlapping by supposing the soft parts to have lost their contractile power permanently, for they terminated favourably without lameness.

In the second place, supposing the fracture to present every symptom of a transverse direction, nay, even granting that it is absolutely proved to be so, there is no efficient protection against longitudinal deformity, without the aid of mechanical measures. If no attempt is

made to retain the proper direction and length of the limb, by other means than simply laying it in a flexed position, or placing it on an inclined plane, the bone is constantly liable to lateral derangement from slight changes of posture, or from unequal or convulsive action of the muscles, under which forces the ends of the fragments are rendered relatively oblique, although they continue perpendicular to the axes of the corresponding fragments. Again, supposing the parallelism of the extremities to be steadily preserved, the constant, though slight rotations of the limb which cannot be prevented, have a tendency to twist the fractured surfaces in one direction or another, and may very readily destroy their apposition. We have indeed seen cases of temporary interlocking of the fragments, preventing not only the shortening of the limb, but even the eversion of the toes, and it is evident that this *may occur* as well in oblique as in transverse fractures. In nine cases out of ten, the mere attempt to determine the direction of the solution of continuity would destroy the correspondence between the ends of the bone in transverse fractures. We have carefully observed at least sixty cases of fractures of the shaft of the femur, occurring during the last fourteen years, with reference to this particular question, and in no instance have we noticed a case which did not sooner or later require permanent extension and counter-extension. Even supposing the general impression on this subject to be correct, a moment's thought would show that the extended position is peculiarly adapted to transverse fractures, on the very principle laid down by Mr. Cooper himself. Here, on the hypothesis, there would be a disadvantage in the double-flexed position, for the apposition of the fragments effectually resisting the disposition to shortening, the whole force of the muscular contractions tend to increase the pressure which he regards as so favourable to ossification, and surely there can be no more certain means of preventing every other species of deformity than the application of inextensible extending, and counter-extending bands, without force, but with sufficient firmness to prevent all changes in the direction of the limb. This distinction in practice between transverse and oblique fractures of the femur, has been copied from work to work without sufficient examination, and is calculated to deceive the inexperienced. We can see no advantage in the knowledge of the direction of the fracture; the proper rule of treatment is a plain one. If the limb retain its length, it should be prevented from contracting; if it be shortened, it should be brought down to its correct dimensions, and both these ends are best accomplished by placing it in the straight position. In fractures of the tibia, where the outline of the bone is easily felt, and its dimensions are greater, the distinction is much more important.

Among the curious cases of fractured thigh narrated in this section, there is one of threatened pseud-arthrosis, in which the propriety of excising the extremities of the bone was discussed in consultation, and its performance submitted to the judgment of the patient. Pressure on the seat of fracture was twice ineffectually made by means of a leather strap and buckles! and was finally relinquished in consequence of the usual inconveniences of partial ligatures upon a limb. What most astonishes us in this case is the proposal of so terrible and doubtful an operation, before the trial of frictions of the fragments on each other, stimulation of the neighbouring parts, seton, or any of the now well-known and often highly successful plans of treatment for pseud-arthrosis! It is an instance of the injurious effect of the application of hypothetical ideas to practice in preference to the results of actual observation. More than eighteen months after the accident, the union being still incomplete, the patient was ordered to use the limb, in order to effect "perfect consolidation, by inducing earthy deposition through the natural stimulus to its growth; namely, *motion and pressure!*" The case is still pending, and the result, consequently, can only be inferred.

In the remaining details with regard to fractures of the inferior and superior extremities, we meet with much deserving of notice, and the cases possess considerable interest. The remarks on the pathology and diagnosis are often important and valuable, and the mechanical treatment throughout seems to be regulated upon principles similar to those laid down by Sir Astley Cooper in his great work on Fractures and Dislocations; they differ widely from those most popular on this side the atlantic.

The essay on diseases of the joints occupies thirty-three pages, and contains, in addition to a very rapid, but clear outline of pathological principles, a number of cases in illustration of them. They are valuable, but offer too little novelty to detain us. That on dislocations is extended to ninety-three pages, and contains short notices, seriatim, of most possible accidents of this character. The general remarks in each section of this essay are avowedly quoted, chiefly from the great work of Sir A. Cooper on the same subject, which is already so well known to the profession that it is needless to attempt an analysis. The cases are numerous, curious, and interspersed with many pertinent commentaries, and the whole presents a general view of the opinions of the eminent surgeon just mentioned, which cannot but prove desirable to those who wish a compendious view of those opinions with novel illustrations, but without the numerous and costly plates of the original.

The work closes with a very short essay on wounds and injuries of the abdomen, chiefly important for the cases of rupture of the abdominal viscera without any wound of the parietes. In one most singular instance of this kind the kidney was extensively lacerated without the occurrence of any fracture or external wound, and the case proved fatal from the internal hæmorrhage which followed. Mr. Cooper observes that the collapse which follows laceration of a bowel is sometimes absent immediately after the accident, but appears immediately upon the extravasation of fæcal matter, of which the collapse is strongly diagnostic in such cases. Several instances are mentioned in support of this position, and one among others, in which an intestine was ruptured by a kick, in a scrotal hernial sac. Collapse and death from extravasation followed the reduction of the hernia. Upon this observation he founds this rule—

"A person having received an injury of the abdomen attended with symptoms of prostration, at the same time having a hernial tumour, that the contents of that tumour are not to be returned into the abdominal cavity; but that as soon as the reäction has taken place the strict antiphlogistic plan is to be adopted, leaving it to nature to repair the injury any viscus may have sustained; for should the contents of the hernial sack be injured, and even the intestine lacerated, as in this case, nature would immediately shut up the hernial from the general cavity of the abdomen, and the contents of the bowel would be poured out only into the sac, indicated by the sudden swelling of the part, and the relief experienced by the evacuation. A cure is then to be effected by opening the tumour, discharging its contents, and treating it as an artificial anus." p. 277.

The greatest defect in this essay is the light manner in which the contusions of the abdomen not complicated with rupture or laceration of the viscera are noticed. Mr. C. acknowledges that they are sometimes productive of collapse, but remarks that they almost always recover under proper depletion *in anticipation of inflammation*, a measure of which he directs adoption immediately on the subsidence of the stage of depression, when the surface becomes warm; suggesting that stimulants may be given in some cases to bring about this condition. "No detail has been preserved of these usually trivial accidents." Now, there are no cases more perplexing to the surgeon, or more deserving of close examination and research, than these very accidents. How often do we see patients who have been buried under masses of earth, or whose abdomens have been compressed by great weights, dying in collapse without any distinct marks of peritoneal or other inflammation, even though they survive forty-eight hours or longer; and how often on the contrary do severe blows, acting on a smaller portion of the parietes, but with no obvious lesion

of any viscus, occasion death in half that time, from collapse equally profound, yet causing the intestines to become agglutinated and the abdominal cavity filled with masses and flocculi of coagulated lymph! Can stimuli be equally proper under circumstances so widely different? If not, how are we to perfect our diagnosis? We do not presume to answer either of these questions, but the subject is much in want of further elucidation. It should always be borne in mind in the treatment of surgical injuries, that collapse may be produced either by such general mischief to the whole nervous system as may directly oppress all the vital operations, or from such an excessive irritation as may concentrate, as it were, the whole vital energy of the system upon a point.

In taking leave of the work of Mr. Cooper, we cannot but express our regret at its want of clearness in style. With regard to matter, much might have been added in the way of praise and dissent, but we sincerely hope that other occasions will be offered from the same quarter hereafter, and that the clinical observations of London hospital practice may continue to be made public from time to time in a manner equally clear and impressive. One word to those who enjoy similar advantages in our own institutions. Why are the results of the practice of our own hospitals confined almost within the limits of their walls? The work of Mr. Cooper, while it informs us how much we might communicate with advantage to the profession, furnishes us in its arrangement with an excellent model for imitation.

R. C.

Art. XIII. *Leçons de Clinique Médicale faites a l'Hôtel-Dieu de Paris*, par le Professeur A. F. Chomel, Recueillies et Publiées sous ses yeux, par J. L. Genest, D. M. P., Ancien chef de Clinique Médicale de l'Hôtel-Dieu, &c. (Fièvre Typhoide.) 8vo. pp. 548. Paris, 1834.

Clinical Lectures on Typhoid Fever, delivered at the Hotel-Dieu of Paris. By Professor Chomel, Collected and Published under his Inspection, by J. L. Genest, M. D. &c.

Under the denomination *typhoid*, Professor Chomel includes all the severe grades of continued fever, in consequence of the presumed analogy which exists between their general phenomena and those of the typhus fever of camps. However dissimilar, he remarks, the several varieties of continued fever may appear in many of their symp-

toms, yet in their general phenomena and progress they present an identity of character; which identity is still further established by the lesions discovered after death in the intestinal canal. These lesions, which consist in a morbid state of the glands of Peyer and Brunner, conjoined ordinarily with tumefaction and other diseased conditions of the mesenteric glands, are present, according to our author, in no other affection, while they are almost invariably met with in the fever under consideration, whatever may be the form which it assumes, whether inflammatory, bilious, mucous, adynamic, ataxic, or nervous. All other pathological lesions detected in typhoid fever, of whatever character, or wherever seated, M. Chomel views as merely accidental complications, the presence of which may, it is true, modify to a certain extent the symptoms of the case, but their absence does not in the least influence the peculiar characteristics of the disease. It will be perceived, therefore, that the typhoid fever of our author corresponds very nearly with the *entero-mesenteric* fever of Petit and Serres, the *exanthême intestinal* of M. Andral, the *dothinentérite* of M. Bretonneau, and the *follicular enteritis* of various other writers.

The following summary of the author's description of the lesions of the intestinal follicles discoverable after death from typhoid fever, will enable the reader to form a judgment of their character.

The first alteration which the follicles of the intestinal mucous membrane experience is their tumefaction, which is occasioned by the formation, beneath the mucous membrane, of a yellowish-white matter, somewhat friable, and which gives to the cluster of follicles constituting the glands of Peyer the appearance of a patch, and to the isolated follicles or glands of Brunner the form of a large pimple of a colour more or less white, and which many pathologists have improperly denominated a pustule. These changes, which do not preserve very decidedly their characteristics beyond the twelfth or fifteenth day from the commencement of the disease, are succeeded, in the majority of cases, by ulceration. This commences sometimes at the mucous membrane and gains gradually the white matter of the tumid follicles, and in other cases it begins by a softening of the latter, which becomes detached from the parts with which it is in contact, and produces subsequently the destruction of the mucous membrane. These morbid alterations commence almost invariably in those follicles which are nearest to the ileo-cœcal valve. About the eighth, fifteenth, or twentieth day of the disease, we find, in a few instances, either at the surface of the tumefied patches, or what is more frequently the case, upon the glands of Peyer, the softened mucous

membrane, of a colour more or less intense, detached from the subjacent tissues and presenting numerous perforations, which are in fact the orifices of the follicles greatly enlarged. In proportion as the tumefied patches or their remains gradually disappear, in consequence of the progress of ulceration, or by a species of gangrene, the edges of the ulcers which are in consequence produced, become flattened, approach each other from below, and present a condition very favourable to cicatrization, or they acquire, on the contrary, a morbid thickening, caused by the hypertrophy of the sub-mucous and muscular tissues, and present an appearance which has considerable analogy with that of a tissue in a state of scirrhous. The ulceration of the tumefied patches extends not only in breadth but also in depth, and invades successively the sub-mucous and muscular tissues, and in some cases even the peritoneum, causing a perforation of the intestine, which may also be produced by sphacelus of the peritoneal coat. In the most favourable cases cicatrization of the ulcers takes place. Ulceration does not occur in all the tumefied patches; there are a certain number which return to the normal state, without ulcerating, by a species of resolution, the effused matter being absorbed. At the same time many of the patches present a dark blue or slaty colour; which colour has also been observed in subjects that have died of other diseases than typhoid fever, or a long time after having been affected with this disease. The foregoing alterations in the condition of the mucous follicles of the intestines M. Chomel declares to be peculiar to typhoid fever; in almost all cases of which they are to be met with. Of forty cases of the disease which terminated in death at the Hotel-Dieu, within five years, in every instance they were detected to a greater or less extent, and in a more or less advanced stage.

Notwithstanding, however, our author insists upon the invariable presence of the above lesions of the intestinal mucous follicles, and of tumefaction and other morbid changes in the mesenteric glands in typhoid fever, viewing them, in fact, as an essential characteristic of the disease, he does not consider them as the cause of the symptoms during life, with the exception perhaps, of the diarrhœa, pain of the abdomen, and gurgling noise produced when pressure is made with the hand upon the lower portion of the abdomen, especially upon the right iliac region. Nor does M. Chomel consider them to have any influence whatever upon the violence or progress of the disease. He sets them down as effects merely of the general morbid condition under which the patient labours.

"The lesions," he remarks, "of the intestinal mucous follicles and of the

mesenteric glands do not present the same degree of development in every case. In some, all the grouped and isolated follicles are tumefied or ulcerated, in others there are only a certain number which are altered in structure; twenty for example in some cases, in others fifteen, and in others only five, three, two or even one, and that sometimes only partially. Now if all the symptoms of the disease and its severity depended upon the lesion of the follicles, there would certainly exist a relation between the phenomena during life and the extent of the lesions discovered after death; while also the violence and danger of the case would be in direct proportion with the number of the follicles affected, and the extent of the alteration in each. But it is shown by accurate observations that, in one patient the disease will show itself with symptoms of the utmost severity, and after death but a very small number of follicles will be found affected; while in another patient, the typhoid symptoms will present but a very moderate degree of violence, but should he die in consequence of the accidental occurrence of another disease, we shall find the intestinal follicles presenting the most extensive lesions."

Among the accidental lesions, or those which appertain less especially to typhoid fever, M. Chomel enumerates ulcerations of the tongue, fauces and œsophagus. Redness of the mucous coat of the stomach varying in intensity in different cases; but which the author maintains we have no evidence to attribute positively to inflammation. Softening of the mucous membrane at the great extremity of the stomach; in a few cases softening of the greater portion of the mucous coat, and still more rarely softening of all the coats. Softening of the gastric mucous membrane to a greater or less extent was present in fourteen out of forty-two cases. According to M. Chomel it is not met with more frequently after death from typhoid fever than in subjects who die of other diseases. Occasionally thickening or thinning of the mucous membrane was detected. In the intestines the duodenum and jejunum, presented in the majority of cases, a deeper red colour than the remaining portion of the intestinal tube. This redness was mixed with a shade of yellow, which diminished ordinarily as we proceed from the jejunum, but which in some cases continued even to the ileo-cœcal valve. The ileum was frequently increased in redness, sometimes throughout all its coats, presenting on the external surface numerous arborescences. Sometimes the redness was confined to the mucous coat; in this latter case the free edge of the valvulæ conniventes were occasionally of a very bright red. They appeared as though they had been stained by red blood coming from their vessels, but the redness was not removed by washing the parts in water. More frequently the redness of the ileum was disposed in zones, which were separated from each other by zones of equal breadth where the three coats were remarkably pale. The parts where the redness was the most

decided were in these cases ordinarily in those portions of the intestinal circumvolutions which occupied a depending situation, relatively to such as preserved a pale tint. In a considerable number of cases the half or two-thirds of the ileum were decidedly increased in redness, while the residue of the intestine remained comparatively pale; ordinarily the red portion was situated in the pelvis, while the paler remained in the abdomen. The increased redness of the mucous membrane was not more decided in the neighbourhood of the diseased follicles, than at a distance from them. The colour of the mucous coat of the large intestines offered fewer varieties than that of the small. It rarely presented any considerable redness throughout its whole extent; very often it was found covered with red spots, varying in size, which were sometimes of so deep a colour as to resemble ecchymoses. It is but seldom, according to our author, that that portion of the mucous coat of the intestines which separates the clustered or isolated follicles, is softened in so great a degree as is found to be the case in the stomach. In three out of forty-two cases the mucous coat of the small intestines was found reduced to the consistency of a layer of gum Arabic. In one case the mucous coat of the ileum was softened at some points, but not at those parts where the redness was the most vivid. In another the mucous coat of all the upper portion of the same intestine was reduced to the consistency of mucilage.

"We may conclude," remarks M. Chomel, from a comparison of the symptoms during life with the lesions discovered after death, "that the different pathological conditions of the stomach, whether the state of injection, softening or the slaty colour which it sometimes presents, or finally the thickening of its mucous coat in subjects who have died whilst labouring under typhoid fever, do not manifest themselves constantly by any particular symptom previously to death, and that it is impossible to say from the symptoms of the case with certainty, whether any appreciable alteration exists in the stomach, or what is the nature of such alteration."

The same, he adds, may likewise be said in regard to the lesions discovered in the intestinal tube.

In several instances a sanguineous infiltration of the intestinal mucous membrane was met with. In these cases the mucous membrane was double or even triple its ordinary thickness, and offered a very peculiar aspect, resembling somewhat a layer of jelly of a black, red or only rosy colour; having also its shining and tremulous appearance. If over the portions thus infiltrated with blood, the handle of a scalpel was passed with a moderate degree of force, from the pores of the membrane there was found to issue a fluid more or less red, and sometimes in considerable quantity, the membrane at the same time re-

turning to its natural thickness, and sometimes even to its ordinary hue. The parts thus engorged varied in extent in different cases from four inches to two or three feet. The redness was always continuous, and occupied the whole area of the intestine, the portions the most inferior presenting no difference from those situated above. In those instances in which the fluid infiltrated was of a light red colour and transparent, by the naked eye numerous small vessels of a deeper colour could be discovered permeating the whole of the affected tissue, the extremities of which would appear to terminate on the surface of the mucous coat. Of the seven subjects affected with typhoid fever, in whom after death the above lesions was discovered, two had experienced intestinal hæmorrhages, a third had discharged blood by vomiting; in two others the small intestines contained a quantity of blood, and the other two, so far as could be ascertained from the observations made at the hospital, had been unaffected with hæmorrhage.

After the mucous follicles of the intestines, the spleen, according to M. Chomel, is the organ most frequently found in a morbid state in those who die of typhoid fever. In almost every case the spleen was increased in size. Sometimes the increase was inconsiderable, at others the organ was double, triple, or even quadruple its ordinary size. Although the augmentation in size was generally most considerable in those subjects who died during the most acute period of the disease, before, namely, the twentieth or twenty-fifth day, yet no very great difference was observed between the bulk of the organ in those who sank during the first days of the disease and those who survived a somewhat longer period. Subsequently to the twenty-fifth day the size of the organ was in general reduced. To this, however, there were many exceptions. In a certain number of cases the spleen was not only increased in size, but also singularly diminished in density. Ten times it was found more or less softened, and thrice it was completely diffluent. In other instances, in place of being softened, it presented a degree of firmness that it rarely possesses during a state of health. This was generally found to be the case after the twentieth day, when the other organs were regaining their normal condition. The colour of the spleen was variously changed; no one, however, of these morbid states of the spleen is connected, we are told, with any particular symptom or form of typhoid fever.

Of the liver, the only morbid state which was observed after typhoid fever, sufficiently often to demand particular attention, was a softening, more or less considerable.

"The softening of the liver as well as the spleen," remarks M. C. "was ordinarily accompanied with a softening of other organs and even of those which

are the most important to life. This fact proves that the softening was not the result of inflammation; for it would be difficult to conceive how so many important organs could at the same time be inflamed without life being instantly extinguished. We also perceive, in part at least, the reason why the lesions alluded to are not manifested during life by any particular symptom."

The changes observed in the state of the blood in those who die from typhoid fever are, according to our author, sufficiently distinct from those we observe ordinarily after other diseases to merit particular attention. More frequently the blood was black and completely diffluent; very rarely small fibrinous coagula were found in the heart, and still more rarely in the blood-vessels. In other cases, the blood, without being completely diffluent, was found in the heart or aorta in the form of coagula of a black colour, and very different from those we meet with in subjects who have died of other acute affections.

"The absence of fibrine in the blood of those subjects who die of typhoid fever is the most striking, and perhaps the most important modification which that fluid presents; the same has been observed in regard to the blood drawn from a vein during the life of the patients.

"Another alteration observed, but more rarely, in the blood of subjects who have died of typhoid fever, is the development of a quantity, more or less considerable, of gas in the interior of the blood-vessels, especially the veins. In some subjects, if we lay bare a large vein, at a part where it does not receive branches, we can often observe bubbles of gas, which may be made to move along the vessels, and are perceptible through its thin and almost transparent coats."

In these cases, it is remarked, the blood presents other traces of commencing decomposition. Often it resembles coffee-grounds floating in an oily fluid.

In numerous cases the consistency of the parietes of the heart was found decidedly diminished; in none did it appear to be increased. Sometimes the softening was to so great an extent that the muscular tissue of the organ broke down between the fingers with the greatest ease. In general this diminution in the consistency of the tissues of the heart coïncided with the softening of the other organs. In other cases in which the diminished consistency of the muscles of the heart was not so evident, the organ was found in so flaccid a state that its parietes sunk together similar to those of a simple membranous bag.

In thirty cases in which the condition of the heart was noted with care, in four there was slight softening and discoloration of all the tissues, in three softening and discoloration of the left ventricle only, in one discoloration without softening, in seven flaccidity without softening, and in fifteen the heart was in a normal condition.

The colour of the lining membrane of the heart was sometimes of a brighter red than natural, in others the redness was more deep or even

livid more frequently, especially when accompanied with softening of the muscular tissue the lining membrane was almost entirely destitute of colour. In no instance did this membrane present the characters proper to inflammation; thus it was never found covered with pus or false membranes, nor presenting a granular appearance. In some cases the internal membrane of the heart alone presented an increase of redness, while that of the aorta and great arterial trunks preserved its normal hue. Frequently the internal membrane of the aorta was of a morbid redness, but the characters of this redness, according to M. C., were far from indicating it to have been the effect of inflammation. In no instance did it result from an injection of the capillaries, but seemed rather to be owing to the imbibition of the more fluid portion of the blood. It has almost always appeared to the author to be connected with the *putridity* of the blood which was found in contact with the membrane.

With respect to the lesions observed in the respiratory apparatus, the author enumerates œdema of the glottis, and occasionally ulceration laying bare the cartilages. The larynx, he remarks, was also occasional the seat of ulceration. The morbid appearances met with most constantly in the lungs were those which occur just before death, such as an engorgement at their posterior and inferior portions. In a certain number of cases this engorgement was accompanied with a degree of softening sufficient to allow of the finger penetrating with ease the tissues of the organ. In a few instances the lungs were affected with genuine pneumonia; sometimes the pneumonia was confined to some of the lobules of one lung, accompanied most frequently with suppuration. In other cases the pneumonia occupied an entire lobe; in this case the patient generally sunk before the occurrence of suppuration.

"Sometimes we observed an emphysematous or œdematous condition of different parts of the lungs, and finally in other instances a pleuritic effusion more or less considerable. In forty-two cases, all, with the exception of ten, presented a morbid condition of the lungs. In eighteen there existed engorgement alone or connected with softening; in three hepatization in the first degree; in two hepatization in the second degree and on a single side; in three lobular pneumonia; in two emphysema; in two œdema; and in two pleuritic effusion. These different alterations, however, remarks M. C. have but a very remote connexion with the typhoid fever, and seem to us to depend rather upon the state of debility in which the patient is sunk, which produces in him a greater susceptibility to morbific causes. In fact, this species of complication is never met with when the patient dies a few days after the attack of fever, but only at a more advanced period."

The morbid alterations discovered in the brain after death from

typhoid fever, exert as little influence, according to M. Chomel, in the production of the phenomena of the disease, as those detected in the other organs.

The delirium, he remarks, which so commonly accompanies typhoid fever, is the most frequently unconnected with any appreciable lesion of the brain. We find, it is true, in a certain number of cases, two conditions of that organ which present a decided deviation from what is commonly considered its normal state; namely, the œdema of its membranes, and an appearance of red points throughout its substance when an incision is made into it.

"But," he adds, "as these conditions occurred as frequently in those cases in which no disorder of the intellectual functions was present as in those where this disorder existed, and as they are as frequent in other diseases as they are in the disease under consideration, we can draw from them no positive deduction."

The serous infiltration of the pia mater and arachnoides occupied most generally those parts which cover the hemispheres, but occasionally he found it also towards the basis of the brain. Sometimes there was a decided congestion of those membranes, but in examining with attention it was found to be ordinarily confined to the venous tissue, the great trunks of which were greatly distended. In a few instances the congestion was so great as to produce an effusion of blood into the tissue of the membranes to a considerable extent.

The brain was often slightly softened throughout; an alteration which M. Chomel conceives to be connected with the softening of the other organs so frequent in the disease before us. Finally, in some cases the brain appeared to be increased in density, but this alteration, if it be such, remarks the author, like the others was not connected with any particular period of the disease. Of thirty-eight cases in which the state of the brain was carefully examined, four presented injection of the meninges; seven œdema of the meninges; six slight general softening; twelve serous effusion into the ventricles, varying from a tea-spoonful to a table-spoonful; five presented bloody points throughout the cerebral substance; two abnormal density, and in fifteen there was no alteration whatever.

From the foregoing summary of Professor Chomel's autopsical investigations of typhoid fever, it will be perceived that he considers the whole of the lesions discovered after death to be altogether unimportant, either in explaining the causes concerned in the production of the disease, the character of its successive phenomena, or its mildness or malignity. Typhoid fever he conceives to be a certain

morbid state of the whole organism, dependant probably upon an altered condition of the fluids; the symptoms by which it is manifested being "the expression of the influence of the general morbid condition upon the entire economy and resulting from the disorder of the principal functions to which the disease gives rise;" in other words, that they appertain rather to the typhoid fever itself than to any organic lesion. The morbid appearances so commonly detected after death, M. Chomel seems to think, are produced secondarily by the action of the disease upon the organs. He admits, however, that it is difficult to explain by what mysterious influence many of these lesions, so different in their character, are produced in the present form of fever. All this may perhaps be very good pathology, but it appears to us to be any thing but clear and satisfactory.

Towards the close of the work M. Chomel enters into a series of arguments to prove the difference which exists between a primitive and local inflammation and one that is secondary and disseminated. According to his definition, an inflammation is primitive and local when it alone constitutes the disease, and occupies, continuously, a surface of greater or less extent—it is secondary and disseminated when it is the result of a morbid condition of the entire organism, and occurs at a number of different points between which the parts are in a normal condition. We believe it to be unnecessary to enter into any examination of our author's obsolete views on these particular points. His reasoning in support of them is altogether vague and inconclusive, and his illustrations, so far from strengthening his premises, are either mere assumptions, or at best require further evidence to establish their correctness.

As the terms typhus and typhoid are in themselves extremely indefinite, and have been applied to a great variety of diseases by different writers, many of which diseases have been shown to be very distinct in their pathological character, it is all-important to ascertain precisely in every case what are the morbid phenomena which they are employed to designate. Hence our author has, in the commencement of the work before us, very properly presented an admirable history of the disease denominated by him typhoid fever, in which the character and succession of the general symptoms are described with great minuteness and clearness. The great length of this precludes the possibility of our translating it entire, and no abstract of it would convey a distinct idea of the disease which it is intended to delineate. We prefer, therefore, to select the more prominent of the author's diagnoses, which will present, with tolerable accuracy, the general characteristics of what he terms typhoid fever.

"During the first days of the disease," remarks M. Chomel, "it is often impossible to determine positively whether it be typhoid fever or some one of those affections with which it more or less corresponds. In a number of cases, however, even from the very commencement, we may suspect the nature of the malady; thus, if it attack suddenly; if to the decided febrile symptoms there is joined, without our being able trace it to any appreciable cause, a permanent pain of the head with vertigo and a staggering gait, and this in a subject at the particular period of life we have indicated.* Particularly if he has inhabited but for a short time a large city, and if there is reason to believe that he has not already suffered from the disease,† in all probability he is labouring under typhoid fever. This may be decided with more certainty if, in addition to the first symptoms, there occur successively, after the second or third day, some one of the other symptoms most common in the disease, such as purging, prostration of strength, commencing stupor, and a discharge of blood from the nose.

"One of the most important phenomena of the typhoid malady is the duration of the fever. When febrile symptoms that we cannot refer to any appreciable lesion are prolonged beyond a certain period, eight or ten days, for example, we have serious cause for suspecting that they are connected with disease of the glands of Peyer.

"During the middle period, most frequently from the sixth to the twelfth day of the disease, we see appear certain symptoms which, in the greater number of cases, should leave no doubt in regard to the diagnosis, namely, meteorism of the abdomen, the typhoid eruption,‡ stupor, which in the majority of cases is considerable, epistaxis, and hæmorrhages from the bowels.

"At an advanced period of the disease it is still more rare that any doubt can exist as to the nature of the disease. If the phenomena proper to the first or second periods have been uncertain, this will not be the case with those which mark the third stage. Hæmorrhages from the intestines, the ulcerations which occur upon different parts of the body, involuntary discharges from the bowels, the strongly-marked symptoms of adynamia, occur successively, and fix with certainty our diagnosis."

The disease which at first view, we are told, would appear to be the most readily confounded with typhoid fever is enteritis. Enteritis, however, is observed in subjects of every age, is the result of

* According to M. Chomel, typhoid fever attacks individuals between the age of eighteen and thirty, when the strength of the body is the most fully developed; it is rarely observed after forty; and no case has yet been recorded in which the disease has attacked an individual aged over fifty-five years.

† M. Chomel believes that typhoid fever ordinarily occurs but once in the same individual.

‡ Small red spots, which disappear upon pressure, about a half a line to two lines in diameter, of a circular form, and but a little or not at all elevated above the skin. They are spread over the abdomen, sometimes over the chest, more rarely over the thighs and arms. These small spots are more evident in proportion as the skin is fair. Their number cannot be accurately determined, because they are not all equally apparent; but to render them a characteristic of typhoid fever, they should be to the number at least of fifteen or twenty.

causes for the most part appreciable, and may occur a number of times in the same individual; circumstances which are not true of typhoid fever. The invasion of enteritis may be sudden, but never unexpected as in typhoid fever. The febrile symptoms are less developed, and generally of shorter continuance; the discharges from the bowels are more numerous, more painful, and attend the whole course of the disease; while in typhoid fever they often occur only at an advanced period, or are even entirely absent. The prostration of strength when it is present in enteritis is never so decided as in typhoid fever; the adynamia, stupor, dark coating of the tongue and gums, the involuntary evacuations, the ataxic symptoms, delirium, subsultus tendinum, are extremely rare in enteritis, as well as the eruption of red spots, the sudamina, meteorism, ulcerations of the parts upon which the patient lies, &c.

With respect to colic, the character of the pains, and the absence, in the majority of cases, of the general phenomena peculiar to typhoid fever, will enable us readily to distinguish the two affections.

A latent inflammation, when it occurs under the circumstances in which typhoid fever usually attacks, and presents one of the forms under which it is the most frequently observed, may cause some uncertainty in the diagnosis; but an attentive observation of the phenomena which occur during a few days will, even in the most obscure cases, enabled us to decide with certainty.

The acute phlegmasiæ occurring in old persons will frequently from the commencement, or after a short time, assume an adynamic form; the same is true also of the diseases of the urinary organs in similar subjects. The age of the patients is here sufficient to enable us to decide that they are not cases of typhoid fever, as the latter affection occurs only in young persons.

Among the diseases which may be easily confounded with typhoid fever, phlebitis is the most prominent. But it is very rarely that this disease is developed spontaneously; most frequently it results from wounds, or surgical operations, particularly venesection, and likewise subsequent to parturition. These circumstances will suffice to direct the physician to a correct diagnosis. From a retention of a part of the placenta in the uterus, after delivery, for several weeks, well-marked adynamic symptoms often occur, and which may be taken for those of typhoid fever. Examination of the uterus and the sanious discharge per vaginam will here prevent any mistake, and besides it is extremely rare to meet with typhoid fever during the puerperal state.

Latent peritonitis complicated with adynamia in a young subject, constitutes one of the cases in which a correct diagnosis is the most difficult. Peritonitis, however, is most frequently attended with

vomiting, constipation, effusion to a greater or less extent in the abdomen, or a sinking in of the abdominal parietes, which appear, as it were, glued to the vertebral column; while typhoid fever is accompanied with diarrhœa, even involuntary stools, and a meteorism more or less extensive, of the abdomen.

There are cases of typhoid fever of the ataxic form in which the diagnosis is to a certain degree difficult from the analogy of the symptoms with those of the cerebral phlegmasiæ. This difficulty will exist especially when the patient is already in a state of violent delirium, or profound coma, with subsultus tendinum or permanent contraction of the limbs, and we have no accurate information as to his previous symptoms. If the skin does not present the lenticular rosy spots, if there is no indication of a hæmorrhage having occurred from the nostrils, and if there is no diarrhœa, we cannot decide in such cases positively that the disease is typhoid, and we shall be obliged to remain in doubt for several days.

The foregoing remarks of the author upon the diagnosis of typhoid fever, are presented, as we have already said, to give our readers some idea of the morbid phenomena to which that term has been applied by M. Chomel. It will be evidently perceived from these remarks that the author considers typhoid fever to be a specific disease, and to require to a certain extent a specific mode of treatment; an opinion, however, which he is very far from having established by the facts which he has adduced. Notwithstanding M. Chomel professes to draw his inferences invariably from repeated clinical observations, yet from an attentive perusal of the work before us, it will be found that his pathological views of typhoid fever are little else than a series of hypotheses, the premises upon which they are founded being unsupported either by the morbid phenomena presented in the course of the disease, or the nature of the lesions discovered after death.

The author's remarks upon the remote and exciting causes of the disease are as little satisfactory as those in relation to its nature. The causes of typhus fever, he observes, are enveloped in the greatest obscurity. We are well acquainted, it is true, with some of the circumstances under the influence of which it is most frequently developed; but the exciting cause, that by the action of which it is actually produced, has as yet escaped all our investigations. We have already referred in a note to the statement of the author in regard to the period of life, to which according to his observations the disease is almost exclusively confined; namely, that between the eighteenth and fiftieth years. He has also found it most liable to affect persons recently arrived in a large city. It more commonly prevails,

likewise, during periods when there exists a scarcity of the necessaries of life, as well as during periods of general distress from whatever this may result. In regard to the question of contagion, the author has with great fairness presented the arguments on both sides, but appears himself to incline to the affirmative side. Nevertheless he admits that if the disease be really contagious, it is so only in a very feeble degree, and under circumstances which have as yet not been satisfactorily determined.

We cannot follow M. Chomel in his description of the symptoms which mark the several forms of typhoid fever, nor his account of the phenomena which indicate the mildness or malignancy of the disease, or point to a favourable or unfavourable termination; and we have but a few remarks to make upon the author's directions for its treatment.

In the mildest and most simple cases of typhoid fever, he directs, at the very commencement, the detraction of blood from the arm, which has the effect of diminishing the pain of the head and shortening its duration, and of preventing the development subsequently of more serious symptoms. When the pain of the head is very severe, he likewise recommends the application of leeches behind the ears with cold applications to the scalp. In addition to the above, the remedies are cooling drinks, mucilaginous injections, daily repeated, and emollient cataplasms or fomentations to the abdomen when this is painful; when the pain is acute leeches also are to be applied. When the heat of the skin is considerable the body is to be sponged with cold vinegar or water. If there is a tendency to coma or delirium, hot applications or sinapisms are to be applied to the extremities. If the bowels are not freely opened, mild laxatives are to be administered; if diarrhœa be present, this is to be restrained by mucilaginous drinks, starch injections, &c. The foregoing, in conjunction with the strictest cleanliness, pure air, a proper regulation of temperature, &c. constitutes the whole treatment necessary in the milder forms of the disease.

In the inflammatory form of typhoid fever he directs bleeding and the ordinary depletory remedies, more or less vigorously employed, according to the age and vigour of the patient, and the intensity of the symptoms; with this precaution, however, that these remedies must not be carried to the same extent as in other inflammatory affections.

In the bilious form of typhoid fever a nearly similar treatment is demanded; in certain cases both emetics and purgatives will be proper. In the mucous variety the same remedies will in general be required as in the more simple form; only in place of mucilaginous or acid drinks the author prefers those which are slightly bitter or aromatic.

In the ataxic form, when the symptoms are of an inflammatory type, depletory remedies are demanded; when adynamic, tonics should be resorted to. In the purely adynamic form of typhus fever, the proper treatment will consist in the judicious administration of tonics, aromatics and stimulants, as wine, camphor, and sometimes ether.

"It is important, however," he remarks, "not to commence upon a tonic treatment during the period when the reäction, already too intense, might by such a treatment be excited to an unfavourable extent. At the same time, it is not less important that we do not delay our tonics until the strength of the patient is completely exhausted and cannot again be roused. It is difficult to indicate precisely the period of the disease at which all depletory remedies should be suspended and tonics be commenced with; it is at the bedside of the patient rather than from books that this point is to be determined.

"Wine, which in this disease is at once an active remedy and admirable aliment, is not equally well adapted to every case. If there be present delirium or symptoms of cerebral congestion, its use should be suspended, as it will then have the effect of very certainly increasing these affections."

When administered it is to be given in spoonful doses, at first one or more times per diem, subsequently every few hours or every hour, and at a more advanced state still more frequently, mixed with the ordinary drinks of the patient. The use of the wine is to be restricted as much as possible to the intervals of the exacerbations.

Ether is said to be useful, more especially when we desire to rouse promptly the actions of the system.

M. Chomel presents some very favourable but cautious observations in regard to the treatment of typhoid fever by the chloride of soda. In the proportion of one to two grains to an ounce of mucilage or weak bitter infusion it was given internally; the patient taking of this solution from three to five basins of eighteen ounces each during the day. It was also given in injections combined with mucilage in a similar proportion, night and morning; the body was washed with the pure chloride four times in the twenty-four hours, the cataplasms applied to the abdomen were also sprinkled with it, and to each of the baths in which the patient was immersed a pint was added, the coverings of the bed were sprinkled with it at short intervals, while vessels filled with it were placed beneath the bed. In 1831 *five* patients were treated in this manner, *all* of whom recovered, while of *fifty-one* subjects treated without the chloride, *sixteen died.* From November to August, 1832, *twenty-three* patients with typhoid fever were admitted into the Clinic. *Fifteen* of these, the symptoms of which were very severe, were treated by the chloride of soda, and *eight* without it. *Five* of the latter with symptoms of little severity were cured. Of the first, *thirteen* recovered; one of the fatal cases presented after death hepatization of the lungs and tubercles. From November, 1832,

to March, 1834, *fifty* subjects affected with typhoid fever were admitted. *Thirty-seven* of these were treated by the chloride, and *thirteen* without it; in eight of the latter the symptoms were very light, in the other three the disease was complicated with pneumonic symptoms. *Five* of the thirteen died. Of the thirty-seven treated by the chloride of soda twenty-five recovered. One of those which died was attacked with cholera, another with pneumonia, another with perforation of the lungs and pneumo-thorax during convalescency. A fourth was brought in in a dying state, and two others were affected with inflammation of both lungs.

"Although the results," remarks M. Chomel, "of the treatment of typhoid fever by the chloride of soda, have been very different in different years, the remedy is nevertheless that which has been attended with the greatest degree of success. Many distinguished physicians have made to us a similar statement in regard to it. We continue therefore to test this mode of treatment which, combined with other remedies adapted to the symptoms of each case, notwithstanding its frequent failure, has presented results more favourable than those obtained from any other."

It is proper to remark that we have given above merely an outline of the author's directions for the therapeutical management of the fever under consideration; we pass by his remarks in regard to individual remedies, and to the modifications of treatment demanded for particular symptoms and the complications by which the disease is occasionally attended; not because they are in our opinion injudicious or incorrect, but from their possessing no particular novelty; they are the same as would be adopted by every enlightened physician.

The present work of M. Chomel, a brief and perhaps imperfect notice of which we have now presented to our readers, is unquestionably one possessed of no uncommon degree of interest from the accuracy and distinctness with which it delineates the various morbid phenomena connected with a highly important class of diseases. And yet the degree in which it advances the actual amount of our knowledge in regard to the pathological character of these diseases is but small. Notwithstanding the numerous well-observed facts which the author presents in relation to typhoid fever, are in themselves important, yet his reasoning from these facts is in too many instances vague and unsatisfactory. He has erected a certain concurrence and succession of morbid phenomena into an entity which, according to his views, acts upon the organs, producing in them various lesions; and he has described disordered functions, which, were we to admit all his conclusions as correct, we must view as being totally unconnected with any morbid condition of the organs upon the action of which those functions are dependent. D. F. C.

BIBLIOGRAPHICAL NOTICES.

XIV. *An Inquiry into the Claims of Dr. William Harvey to the Discovery of the Circulation of the Blood; with a more Equitable Retrospect of that Event. To which is added an Introductory Lecture, delivered on the 3d of November*, 1829, *in Vindication of Hippocrates from Sundry Charges of Ignorance, preferred against him by the late Professor Rush.* By John Redman Coxe, M. D., Professor of Materia Medica and Pharmacy in the University of Pennsylvania, &c. &c. De mortuis nil, nisi-verum. Philadelphia, 1834. 8vo. pp. 258.

Upwards of two centuries have now elapsed since the work of Dr. William Harvey, *De motu Cordis, et Circulatione*, in which he describes the action of the heart and the circulation of the blood, and claims for himself the honour of being the sole discoverer of these important and interesting physiological facts, was first presented to the world. Although, immediately after the appearance of this work, the claims of the author as the actual discoverer of the circulation were strongly contested, and nearly every point in connexion with the question became the subject of warm and protracted controversy, yet it appears, that all opposition to his claims was either silenced or removed even during the lifetime of Harvey, while by subsequent writers the entire credit of the discovery has been, with scarcely a dissenting voice, fully awarded to him. At the present day, therefore, there are, we suspect, but very few who entertain the slightest suspicion as to the correctness of this award. The name of Harvey has become so completely identified with the discovery of the circulation, that the attempt to prove his claims to be in any degree unfounded will be viewed by many as little else than madness. In the work before us, Professor Coxe has, nevertheless, endeavoured to show that the evidence in favour of those claims, which our profession has so long and so unanimously concurred in, is very far from being satisfactory or conclusive. He adduces numerous citations from medical writers anterior to or contemporary with Harvey, to prove, that a circulation of the blood was always accredited, though its exact route and the mode in which it was effected were unknown: that nearly every individual fact connected with the circulation, as taught by Harvey, and all the various grounds adduced by the latter in support of his views, with scarce a solitary exception, are distinctly pointed out by others, with whose writings it is not reasonable to suppose that he was not perfectly conversant. These premises being established, the claims of Harvey are reduced to the having more fully substantiated the facts previously known in relation to the circulatory apparatus, and of demonstrating from them the true route of the general course of the blood, which had until then remained in a state of uncertainty. In the words of Professor Coxe, the honour may be ascribed to him of "attaching more firmly the connecting links of an extensive chain which time had rusted, and possibly, also, of adding slightly to its more full perfection."

Admitting, with our author, that Harvey's views of the circulation of the blood were derived originally from the various hints advanced in the writings

of preceding and contemporary physicians, he was nevertheless unquestionably the first who clearly deduced from these hints a correct account of the mode in which the blood is transmitted from the heart and again is returned to that organ. By no one, previously to the appearance of Harvey's work on the subject, is the true route of the circulation fully and clearly described; hence, in a certain sense, Harvey may with perfect truth be styled the discoverer of the circulation. Professor Coxe considers, however, that even to this limited extent his claims, strictly speaking, are unfounded, inasmuch as he has fallen into numerous errors and contradictions in relation to the subject; as he has not explained fully the mode in which the blood passes from the arteries into the radicles of the veins, and hence has not made out the entire route of the circulation—a point which is not satisfactorily settled even at the present day—and as he has not explained clearly the powers by which the motion of the blood is effected, and was, so far as can be learned from his writings, entirely ignorant of the capillary circulation. We pass by those objections derived by Professor Coxe from the errors into which Harvey has fallen in regard to, or rather his ignorance upon various points of physiology, as these errors do not appear to us to have any bearing upon the question immediately before us—they cannot in any degree invalidate his claims to the discovery of the circulation of the blood, provided that conclusive evidence could be adduced to prove that the latter was entirely unknown previously to its announcement by him.

Professor Coxe has not only impeached Harvey's title as discoverer of the circulation of the blood, but he has also adduced evidence to convict him of the most unpardonable disingenuousness, in observing an almost total silence in regard to the writings of others, in connexion with the subject of the circulation, and the anatomy of the heart, veins, and arteries; especially certain writers immediately preceding him, "on the use of the valvular apparatus of the veins; the only part nearly that could be regarded as imperfect in the history of the circulation," or in referring to them merely to misrepresent or undervalue the opinions they advance.

These circumstances, which are fully made out and established by the professor, in connexion with the intemperate and vulgar abuse in which Harvey indulges when speaking of his opponents, certainly tend very much to lower our esteem for the character of that illustrious man, and lead to a strong conviction that his right to the discovery which he so imperatively claims rests on a very insecure foundation, and hence that he was desirous, in order to add to his own fame, of concealing the fact, that in the same field of inquiry upon which he had entered any competitor existed, either anterior to or contemporaneously with himself.

Has Professor Coxe in any degree succeeded in diminishing the claims of Harvey to the discovery of the circulation? The most prudent course in regard to this question would probably be to refer our readers to the evidence detailed in the work before us, and allow each of them to judge for himself. We have, however, no desire whatever to shrink from the clear and candid expression of our own opinion in relation to the subject. We reply, then, that many of the most important links in the chain of evidence by which the fact of the circulation is established are proved by Professor Coxe to have been known and more or less accurately described by writers preceding the period when Harvey

commenced his investigations, and there is almost conclusive evidence that the latter was perfectly acquainted with these facts; and that it was by connecting together the links thus furnished to him by his predecessors that he was enabled to demonstrate, as he has done, the course of the blood through the lungs and the general aortal and venous systems, in its passage from and to the heart; and hence that he is not entitled to the honour claimed by himself and ascribed to him by his supporters, of being the first and sole discoverer of the circulation.

It may be said, that the very same objections to the validity of Harvey's claims were urged and completely refuted during his life time. We believe, however, that this is not strictly the case. So far as we have been enabled to investigate for ourselves the grounds assumed by those who opposed the views of Harvey in regard to the blood's circulation, immediately after their promulgation, they consisted in one or other of the following assumptions.

1st. That the supposition of a circulation of the blood is founded in error.

2d. That the circulation of the blood was fully, or at least in great part, taught by the ancients; or

3d. That the route of the circulation assumed by Harvey is not the true one.

Now it appears to us, without touching in any degree the real merits of Harvey's claims, to have been no very difficult task for his advocates to disprove such assertions as these, and to silence an opposition which had no more solid foundation. Few candid minds could "withstand the demonstrations of the circulation as laid down by Harvey," and no one who understood these demonstrations, or whose object was to arrive at the truth, could possibly imagine that the entire fact of the circulation as taught by him was borrowed from notices like the following, the first derived from the writings of Nemesius, a metaphysical writer of the latter part of the fourth century, and the other from Theophilus, a physiologist of the seventh century, and yet the passages given below have actually been adduced, in common with many others of similar import, by some of Harvey's opponents, as convincing proof that the whole of his pretended discovery is a mere plagiary from the works of the older writers.

The words of Nemesius are—

"The pulsation, which has also been termed the vital power, (ζωτικὴ δύναμις) proceeds from the heart, especially from its left chamber, termed the pneumatic, and distributes the vital heat through the arteries to all parts of the body, as does the liver the nutritive matter through the blood vessels."

According to Theophilus—

"From the right chamber of the heart, (ἀπὸ τῆς δεξιᾶς κοιλίας,) springs the arterial vein, (φλὲψ ἀρτηριώδης,) which conveys the blood of the vena cava to the lungs; from the left chamber arises the aorta, (ἀορτὴ ἀπὸ τῆς ἀριστερᾶς κοιλίας,) which is distributed over the whole body, and also the venous artery, (ἀρτηρία φλεβώδης) which conveys the vital heat from the lungs to the blood of the left chamber."*

From all the facts that we have been able to gather in relation to the subject under consideration, it appears evident to us that the claims of Harvey as discoverer of the circulation were very imperfectly investigated during his life time, while the real character of these claims have been misunderstood from that period to the present. The loose manner in which they have heretofore been examined, has, indeed, tended more to increase their strength than all the

* Vide Hecker's Geschichte, Bd. II. pp. 81, 185.

arguments adduced by their supporters. Hence they present still an interesting subject for investigation, and we know of no one in this country by whom this investigation could have been so fully and so fairly pursued as by the author of the inquiry before us. Intimately acquainted with the older medical writers, in which his library is probably richer than any other private collection amongst us; fond of the ancient lore of our profession, and with time and talents perfectly adequate to pursue a long and laborious chain of inquiry through the dusty pages of antiquity, Professor Coxe has engaged in the task he has undertaken with means and facilities for its accomplishment which few others could have commanded. His work, notwithstanding its arrangement, is faulty, and the chain of reasoning of the author is often obscured by unnecessary digressions and repetitions, presents matter of a highly interesting character, and which will doubtless be new to the major part of his readers. For ourselves, although we had studied with some attention the celebrated work of Harvey, and have dipped somewhat deeply into the pages of the antiquated writers of our profession, we confess that we have learned from its pages many facts of which we were before ignorant, and have acquired a more perfect acquaintance with the gradual steps by which a full knowledge of the circulation was attained, than we before possessed.

We fear, however, that in consequence of the author having presented all his quotations in the Latin, unaccompanied with a translation, his book will be rendered a sealed one to a numerous class of those to whom it is dedicated. With Professor Coxe we sincerely regret the almost total neglect of the learned languages by the physicians of this country; nevertheless, we conceive that he might, with propriety, have withheld some portion of the censure he has indulged in on this point. He is perfectly aware that to the University of the Medical Faculty of which he is a distinguished member, or at least to one of its former professors, is in a great measure to be ascribed the very neglect he reprobates. Even now it requires of those whom it admits to the doctorate no evidence of their classical attainments, and elevates alike to the same honours the illiterate and the learned, provided they can pass with credit their professional examination.

Appended to the Inquiry into the claims of Harvey as discoverer of the circulation of the blood, is an introductory lecture delivered by the author a few years ago to his class, in which he triumphantly vindicates Hippocrates from the charge of ignorance prefered against him by the late Professor Rush. For this judicious attempt to revive our interest in the writings of the illustrious father of medicine; writings which, by the labours of their numerous commentators, were made to exert for centuries a powerful influence over medical opinions and practice, Professor Coxe deserves our sincerest thanks. While the name of Hippocrates is so frequently referred to, how few physicians are there who are at all acquainted with his real merits and the claims which his numerous works present to our respect and attention! Although we cannot, with certain enthusiasts of a former century, extol those writings as presenting the only true views in pathology and therapeutics, yet we must admit that they are nevertheless, generally speaking, rich in facts, the result of close and extensive inquiry, while several of the treatises of Hippocrates might even at the present day be read by the medical student, and even the practitioner, with not a little profit.

D. F. C.

XV. *The Cyclopedia of Practical Medicine and Surgery; a Digest of Medical Literature.* Edited by Isaac Hays, M. D., &c. Parts III., IV., and V.

These three numbers of the Cyclopedia complete the first volume of the work, and include all the subjects under the letter A. so far as *Angina Pectoris*. The medical public have now a fair opportunity of judging of the general character of the Cyclopedia, and of the extent to which they may expect the promises held out in the prospectus to be redeemed.

The great object aimed at in a work like the present, is not, as some would seem to imagine, to present novel opinions in regard to the various subjects embraced in its pages, nor to record the experience of any particular individuals or school of medicine; it is one of far greater extent and usefulness. It is to present in a condensed form, but sufficiently in detail for all practical purposes, the actual state of our knowledge upon all those branches into which the medical and surgical sciences, properly speaking, are divided. Collecting valuable materials from every available source, separating facts from hypotheses, comparing the experience of the profession abroad with that of our own physicians, and placing to the credit of each the additions and improvements which they have respectively contributed—thus presenting a fair exposition of the current doctrines of the day in conjunction with those of the older writers, the truth of which has been confirmed by a long succession of experience; a work of this character constitutes, what the editor announces the Cyclopedia to be intended for, a complete library of the medical sciences. In the highest degree useful to the members of the profession generally, such a work is particularly so to those who live remote from extensive public libraries and the grand centres of medical and scientific information, placing as it does within their reach, and in a form which renders a reference to any particular subject perfectly easy, "a digest of the existing state of knowledge in all the branches of the healing art."

How far the present work is deserving of this character, must be left to the decision of the profession at large. So far it has certainly not disappointed the most sanguine anticipations of its friends. Taking the five numbers already published as a fair specimen of its general plan, and of the talents of the writers engaged in it, both in a scientific and literary point of view, we have no fear as to the judgment that will be pronounced upon it by the medical public; we have an assurance that every American physician will feel a pride in extending towards it his support. In the volume just completed, the editor has evinced a commendable zeal to present a faithful record of the medical and surgical practice of this country. It will be seen by an advertisement which accompanies the fifth number, that from the liberal and honourable manner in which some of the most distinguished members of the profession have placed their unpublished observations and cases at the disposal of himself and his colleagues, the work presents even more of an original and American character than was promised; and this we are informed will be found to be the case to a still greater extent as the work proceeds.

It is neither necessary nor expedient for us on the present occasion to enter into a detailed examination of the whole of the contents of the three numbers before us. It would be impossible, indeed, without extending our remarks be-

yond the limits of a bibliographical notice, to examine succinctly even the more prominent articles embraced in their pages. We may be permitted, however, merely to refer to a few. The subject of Alteratives and that of Anemia are treated by Dr. S. Jackson in his usual happy manner. On both, the views of the author will, if we mistake not, be found to be highly judicious, and in a practical point of view all-important.

The well-known talents of Dr. Bache as a chemist and physician, his commendable cautiousness and accuracy, are a sufficient guarantee for the excellence of the articles Albumen, Alcohol, Alkalies, Alum, Ammonia, &c. contributed by him. The reader will find in them all the most important and useful facts in relation to each subject treated of, presented in a concise but clear and intelligible style. The same remarks will hold good in reference to the articles Allium, Aloes, Almonds, Ammoniac, &c. from the pen of Dr. Wood. From the pen of Dr. Dewees we have the article After-pains, and an admirable article on Amenorrhœa. The excellent judgment of the writer and his long experience as an obstetrician and practitioner in the diseases of females, render his observations on both of the above subjects extremely valuable.

In the article Affusion, by Dr. Emerson, is contained a very able exposition of the therapeutical effects of water when poured upon a part, or over the whole of the surface of the body, and of the precautions to be observed in its employment in this manner as a remedial agent.

Under the head of Air is examined the action of that fluid when admitted into the veins. This division of the subject is by Dr. Warren, of Boston. The facts in relation to it are clearly stated, and the inferences drawn from those facts are of very considerable interest, as explanatory of the cause of the sudden and unexpected death which occasionally occurs in patients during certain surgical operations, and as pointing out the means for its prevention. The portion which refers to the action of air introduced into the arteries and internal cavities of the body, bears the signature of the editor.

The principal surgical articles contained in the present number, with the exception of those which relate to the affections of the eye, written exclusively by Dr. Hays, are three, namely, Amputation, by Dr. Geddings, of Baltimore; Anchylosis, by Dr. Horner; and Aneurism, by Dr. Hodge. All of these are very able articles, replete with sound practical principles. They confer great credit upon the respective writers, while they cannot fail to enhance the interest and value of the Cyclopedia.

In the article Ages, by Dr. Condie, will be found a graphic sketch of the gradual development and decline of the human organism, and of the different physiological phenomena peculiar to the several stages through which it passes from the period of birth to that of extreme old age.

The subject of brainless monsters is treated of under the head of Anencephalus, by Dr. Geddings. This article is of considerable length, and its details will no doubt be considered uninteresting by many readers; they are nevertheless of great importance in reference to the physiological inferences to be derived from them. Considerable industry and research are displayed by the writer in the collection of the numerous facts connected with the subject.

The article Angina Pectoris, one of great interest, is contributed by Dr. Chapman.

Anasarca by Dr. Condie. Reserving the consideration of the pathology and treatment of serous effusions for the article Dropsy, in this article Dr. C. merely presents an account of the symptoms accompanying the external form of that disease, with a brief sketch of its varieties, their causes and treatment.

We must here close our brief and very imperfect notice of a part of the contents of these numbers. After a very careful, and we can say with great truth, entirely unprejudiced examination of the several articles which they comprise, we feel no hesitation in recommending the Cyclopedia of Practical Medicine and Surgery to the patronage of our medical brethren throughout the United States. We are perfectly aware that to render a work of this kind deserving of their support, demands on the part of its conductors talents of no ordinary character. We believe, however, that the deservedly high standing of the several contributors, their extensive professional experience, and the evidence which they have already given of their capacity faithfully to fulfil the important task they have undertaken, will remove all doubts as to the character of the succeeding volumes. F.

XVI. *De la Réunion Immédiate des Plaies, de ses Advantages et de ses Inconvénients.* Par L. J. Sanson, Chirurgien de l'Hôtel-Dieu de Paris. Paris. 1834. pp. 115.

In a recent No. of this journal we noticed the very interesting work of M. Serre, upon union of the first intention; a work written to secure the claims of M. Delpech, and those of the school of Montpellier, from the neglect of the profession in Paris. The remarks made in that article foreclose many of the commentaries that we should be inclined to make upon the essay before us, and may serve as an apology for now offering the public a hasty bibliograph, where the importance of the subject would otherwise seem to demand a grave review.

M. Sanson is one of the pupils of the school of Dupuytren, and is well known as the author of the surgical portion of the beautifully lucid treatise on the Elements of Pathology published in conjunction with M. Roche, in 1827. He is at present one of the surgeons of l'Hôtel-Dieu, and his views may be considered as those generally entertained by the leading surgeons of that noble institution. In the work under notice we are furnished in the earlier chapters with a clear view of the local and general phenomena of immediate union in wounds, the constitutional and local conditions and treatment that favour or oppose its success, and the physiological history of secondary union in wounds with and without loss of substance. Then follows an outline of the proper treatment of wounds in particular regions of the body, with especial reference to the propriety or impropriety of attempting primary union in individual cases. The second article treats of immediate union as it is practised after surgical operations other than amputations, and the third is devoted to the argument on the propriety of attempting this mode of cure after the latter class of operations.

The work has little claim to originality, but is highly interesting, as furnishing some insight into the causes which have retarded the progress and diminished the success of the treatment of wounds by this method in France, and particularly in Paris. Perhaps the greatest defect of most French pathologists,

(we say most, for there are some noble exceptions,) is their too great anxiety to simplify. From a few well-founded, and it may be, indisputable postulates, they deduce apparently logical conclusions, which they attempt to apply invariably in practice, forgetful of the fact that all physiological questions involve data which in the present state of our knowledge are entirely undetermined, and hence our conclusions are at best but approximations. They have invaded the domains of empiricism with more success than their brethren in any other country, and this is much; but it should be borne in mind that until the science of life becomes at least equally well known with that of mechanics, the practice of medicine must and should continue in some degree empirical. When a practical procedure produces a result which appears to conflict with our theoretical opinions, we should not be in haste to reject either the fact or the theory; it is not even safe to rank the former among the exceptions to the latter without considerable caution. To us these remarks seem to apply with considerable propriety to the treatise of M. Sanson, but of this the reader will judge for himself as we advance.

The author describes with his usual brevity and clearness the appearances presented by a wounded surface during the progress of union, waving the question of the precise origin of coagulable lymph and that of the direct inosculation of the divided vessels, but dwelling upon the fact that adhesion, like all other vital operations, takes place more slowly in the less vascular and more solid tissues than in those of an opposite character. Upon this undoubted fact he grounds a practical precept which we cannot regard as at all correct.

"If two points are placed in contact, one of which presents the conditions necessary for a prompt development of the phenomena of adhesion, and the other is in the opposite condition, inflammation can run its course in the former before it is developed in the latter, and the reünion will be difficult or will not take place at all. If the structure of the wound is such that certain parts, similar to each other, or nearly so, are in contact, reünion will take place particularly between these parts; and if the wound is very complex in regard to the number and variety of the tissues interested, the partial reünion of which we speak can only take place easily between the integuments forming its orifice, leaving a gap beneath in which fluids of various kinds are deposited." p. 6.

It is obvious that practising upon the positions here laid down, the surgeon would avoid attempting the reünion of many wounds, or if he should attempt it he would do so with little confidence of success; and in case of failure he would be disinclined to seek any other explanation of his want of success than such as his theory provided. We have little doubt that this doctrine is one of the chief causes of the slowness with which the plan of union by the first intention after amputations has been adopted in Paris. We have space only for a very short commentary on the position assumed in the paragraph just quoted. No one denies that adhesion takes place more slowly in bone than in free cellular tissue, but slowness is no proof of difficulty or uncertainty. There is no tissue in which union takes place *more surely* than in the osseous tissue, as the whole history of simple fracture clearly shows. Again, no tissue unites more readily with surrounding tissues however dissimilar, so long as its vitality is preserved by the integrity of its periosteum. Does any one dream of abscess of the elbow-joint, or the discharge of the fragment, as a necessary consequence of a neglected simple fracture of the olecranon? On the contrary, we invariably find it adher-

ing to the surrounding cellular membrane until that membrane is converted into ligament. When the extremities of a fractured femur are left unreduced and separated by a portion of muscle, does the adhesive process go over in the muscle before it is developed in the bone, and thus leave a cavity round the naked fragments, eventuating in an abscess? by no means; each extremity unites with the muscle which forms part of the bond of union until its structure is gradually changed to a greater or less extent. We have here chosen extreme cases in order to render the argument as strong as possible; yet we would not be understood to deny that adhesion may take place between the integuments and fail in the deeper seated parts of an external wound. When such an event does occur we regard it as the result of a want of proper apposition, and not of the dissimilarity of the tissues placed in contact, for the latter circumstance, though it may retard the period of *firm and perfect reünion*, cannot in our opinion effect its certainty. Even the want of complete apposition in the deeper parts of a wound is not necessarily fatal to union by the first intention. It may well be doubted if extensive wounds are ever entirely cleared of coagulated blood after the dressings are completed. There is plenty of evidence to show that a considerable amount of blood has often been enclosed under flaps, the integuments have closed, and the coagula have not prevented the union by the first intention. Who has not seen compound fractures converted into simple ones, and running their course without accident in cases in which the integuments have united in twenty-four hours, over a wound distended more or less not only with blood, but with medullary matter escaping from the cavity of the injured bone? and who has not often seen superficial wounds unite before the removal of the first dressing, without a drop of pus being formed, when blood in no inconsiderable amount has oozed out between the adhesive strips for an hour or more after their application? If either the identity of tissue, or the absolute perfection of contact were necessary to union by the first intention, or as M. Sanson expresses it, for reünion without suppuration, how different would be the known result of most lacerations of muscles, and severe, deep-seated contusions unattended with external wounds! accidents which differ in no respect from a wound in which the integuments have united while the inner portions remain separated by "fluids of various kinds."

After a few remarks on the general symptoms, commonly very slight, induced by direct nervous irritation, or by sympathy, in wounds which unite directly, M. Sanson proceeds to notice the "circumstances favourable to union by the first intention." They are briefly as follows:—1st. *Life and free circulation in both surfaces of the wound.* The author grants the validity of the evidence in favour of the possibility of grafting one part of an animal upon another, and of the occasional reünion of parts completely severed from the body, but very properly considers them as bare possibilities. 2d. *The recent occurrence of the wound and its slight exposure to the air.* 3d. *Freedom from contusion.* 4th. *The absence of foreign bodies from the wound.* Here the author alludes to the unavoidable difficulty resulting from the presence of ligatures in the wound. He seems to favour the idea that the method of arresting hæmorrhage by torsion may hereafter remove much of this "grave difficulty." The inconveniences produced by the ligatures, as generally employed in this country, can seldom be considered grave, and we doubt very much whether the presence of parts,

however minute, in which vital power is seriously enfeebled by twisting and contusion, is not calculated to insure more mischief in a wound than the presence of a few slender filaments of silk. The method by torsion has undoubtedly some valuable applications, but it is hardly likely to become a common substitute for that by ligature. The author himself makes some remarks, which in part explain this undue importance attached to the action of ligatures in opposing union. He sides with Thompson, in opposition to Hunter, as to the question of the vitalization, or absorption of coagula in wounds that heal without suppuration—and follows the former in a practical inference, which we could never regard as perfectly legitimate, although some of our eminent surgeons have been recently influenced by it in practice.

"According to Thompson, if a thin layer of blood interposed between the lips of the wound does not prevent their reünion, it is because it is absorbed; the operation of adhesion does not commence till after this preliminary operation is completed; whence results the important precept, *adopted by the majority of practitioners*, to tie even the smallest vessels capable of furnishing blood, and to wash carefully the surface of the wound before proceeding to close it." p. 17.

Having spoken of this practice in the bibliograph of the work of M. Serre upon the same subject, we will avoid repetition by referring the reader to that article—merely remarking that the presence of a great and unnecessary number of ligatures, and the exposure and handling necessary to search out a multitude of unimportant vessels, must prove a very serious obstacle to union by the first intention. The torsion of such numerous points would be scarcely less injurious, and indeed could hardly produce so little inconvenience as the interposition of a small amount of blood. 5th. *Suitable age.* The younger the patient, cæteris paribus, the more rapidly does union take place, but, as M. Sanson remarks, extreme youth may interfere with the mechanical treatment necessary to procure accurate coäptation in the wound. He gives the opinions of various writers on the proper time for operating in hare-lip; but does not attempt to decide the question positively. 6th. *Good general health.* Under this head we find some very interesting remarks, showing that lues venerea, scrofula, cancer, &c. even when they affect the constitution generally, do not necessarily prevent or retard the progress of union by the first intention. He gives a very interesting case to prove that a state of extreme feebleness is not always a bar to surgical operations when that feebleness results from the local affection demanding the operation. The patient had all the rational symptoms of advanced phthisis; hectic fever, colliquative diarrhœa, nocturnal sweats, &c.; and appeared in the last stage of attenuation and marasmus. He laboured under ulcerated white swelling of the left wrist; had been healthful till his twenty-ninth year; never had spitting of blood or glandular swellings, and displayed no scrofulous cicatrices. His health had failed within a short period. Want of work, consequent misery and privations, a prison, distress of mind, an unhealthy apartment, bad diet, and rheumatic pains, superinduced the disease of the wrist. The limb was amputated; it healed by the first intention; in twenty-four hours every bad symptom disappeared, and he perfectly recovered.

"But when the debility is original; when the patient has been languishing all his life under cacochymia; when the affection, for which it becomes neces-

sary to perform a serious operation, which only promises success in case the wound unites by the first intention, or, at least, with but little suppuration, is the result, or so to speak, the last stage of this general condition; above all, when this debility is caused by, or has determined an organic affection, such as the presence of tubercles in the principal viscera, &c., in all these cases it is necessary to abstain from operating, for the operation would only hasten the death of the subject." p. 20.

Lastly, M. Sanson mentions, as one of the most important circumstances favouring union without suppuration, *the perfect contact of all the wounded surfaces.* The remarks which we should be inclined to make upon the great importance here attached to the slightest deposition of fluid in any part of the wound, have been already given to the reader, and need not be repeated. The author then proceeds to make some general and very pertinent observations on position and the mechanical treatment of wounds. In speaking of adhesive strips, he notices their tendency to produce erysipelas, and thus prevent the union in certain cases—a fact which we have dwelt upon in several former articles, and which has scarcely received proper attention in this country, where a tendency to this disease is frequently prevalent epidemically. He rejects the use of adhesive strips in wounds involving muscles, "because they only unite the orifice, and leave a hiatus remaining beneath." p. 26. Though this may *sometimes* furnish an argument against them in transverse lacerations of muscles, *as a general rule,* it can hardly be defended; the exceptions are vastly more numerous than the applications, and in most cases we should as willingly entertain the idea of laying open the integuments over a ruptured muscle not complicated with an external wound, as that of not closing them, when practicable, over a cavity which cannot be entirely obliterated or freed from coagula in a case complicated with an external wound—provided only, the closure could be effected very soon after the accident. We are at a loss to discover why the danger of abscess should be considered materially greater in one of these cases than in the other. The alternative, which consists in drawing the divided muscle together, with the integuments, by means of very deep stitches, a practice pursued by some eminent surgeons, may possibly be successful in certain cases, though we believe it is very rarely admissible—a proper attention to the attitude of the patient, aided by adhesive strips, or superficial suture, being sufficient in a vast majority of instances. M. Sanson strongly disapproves of this method.

The three succeeding chapters of the first article treat of the general measures necessary to insure union by the first intention, the local, and the general phenomena in suppurating wounds. They are all interesting, particularly the first. We cannot pause to analyze them at present, but will merely remark, in passing, that M. Sanson considers the puogenic membrane to be produced from the coagulable lymph in the same manner with the bond of union in wounds which do not suppurate. This membrane, after becoming organized, forms the granulations, the cicatrix, and supplies the defect produced by loss of substance when such loss occurs; it is therefore the sole agent for the reproduction of lost parts, and when perfected by time, constitutes the *tissu inodulaire* of Delpech. The author contends against the opinions of Beclard, Larrey, Cruveilhier, &c. as to the impossibility of vital actions in articular cartilages, and states that he has seen these cartilages to swell and become covered with vascular vegetations after amputation.

The seventh chapter commences with a very brief outline of the origin of the doctrine of union by the first intention, its subsequent neglect and revival. Then follows an account of the circumstances which at present determine the propriety of attempting or avoiding the closure of a wound by this method. The only exceptions to be taken to the principles here laid down, are such as are consequent upon the opinions which have been already combated, and the same remark applies to the general practical directions for dressing and treating accidents of this nature. The chief objection to these directions is that they would induce too much interference on the part of the surgeon, the waste of far too much time in manipulating before closing the wound, and too little trust in the powers of nature. In proof of this we will translate three of the directions, which by their strong language appear to explain in some degree the more frequent failure of attempts at union in Paris than in other places, a fact that is sufficiently proved in the work of M. Serre, already quoted. These directions are—

"To absterge with care all the surface of the solution of continuity with a fine and soft sponge, charged with warm water, in order to remove *scrupulously even the last clot of blood.* If vessels sufficiently considerable to be visible are divided, to tie them, *even to the most minute.* To take care in every case, before proceeding to reünion, that the flowing of blood should be *completely arrested.*" p. 59.

The remainder of this chapter is given to the consideration, in a cursory manner, to wounds of particular parts of the body. Under the head of wounds of the cranium the author recommends the suture with perhaps too little regard in cases where the flap forms a dependant cul-de-sac; ligatures on the hairy scalp produce more irritation than in most other parts, and are very prone to cause inflammation. Moreover wounds of the surface of the cranium are so completely manageable by means of adroit bandaging, that suture is very seldom necessary. He lays considerable stress upon counter-irritation of the extremities in threatened inflammation of the scalp. In commenting upon Baron Larrey's occasional success in sabre cuts involving the scalp, the cranial bones and a part of the cerebral substance, he lays it down as a law admitting no exception, that in such cases no attempt should be made to unite the wound for fear of compression of the brain by the effused blood, or the subsequent suppuration. Though this law must be regarded as generally correct, there are cases in which the chance of success is even less considerable than in incised wounds, and yet we think the attempt at union should be made as the least of evils.

In speaking of transverse wounds of the neck he strongly recommends the suture, and when alluding to the suffocation resulting from retraction of the trachea, or from bleeding into the tube, he impresses the necessity of waiting for the entire arrest of hæmorrhage before closing the wound. Without sharing in the great dread, expressed by M. Sanson, lest the direct admission of air into the tube should occasion fatal suppuration, we fully admit that the strictest attention to the three practical directions which we just now censured in their general application, is indispensable in cases of this character, and consequently we seldom anticipate complete union of the whole wound by the first intention when the trachea or larynx has been extremely injured. The author recommends suture through the cartilages in case of threatened suffocation after complete division or repeated incisions of the larynx or trachea, noticing M.

Castan's successful case in which he punctured the ossified cartilages with a trochar, in order to introduce the needle. Cases may occur, positively demanding such measures, but as the present learned professor of surgery, Dr. Gibson, justly remarks, by such means "a troublesome cough and an incessant irritation will be kept up." (Institutes and Practice of Surgery. v. I. p. 160.) To avoid this difficulty, the lining membrane should be avoided if possible, when suture is absolutely demanded. As a general rule we should say that extensive wounds of the larynx and trachea do not admit of entire closure within the time necessary to cause immediate union, because sometimes the flow of blood cannot be perfectly, securely, and permanently arrested until several hours have elapsed, and if the whole wound be closed by suture there is great probability that the stitches will be torn out by coughing, or that they must be cut by the surgeon to prevent imminent suffocation. Adhesive strips for the corners, and position for the centre of the wound, furnish the most rational means of treatment, and if the latter portion should suppurate, the danger of an extension of the inflammation to the tube cannot be so great as M. Sanson seems to infer. On wounds penetrating the cavities of the thorax there is nothing of very particular interest except a dangerous case of wounded lung, by M. Taxil, in which the blood was evacuated by enlarging the orifice, and with success, proving the occasional exceptions to the general law, that such wounds should be immediately closed. One word on the subject of wounds of the extremities.

"A question, more important and long debated, is whether or not union should be *attempted* in wounds complicated with fracture. The numerous failures made in endeavouring to preserve members, had caused many distinguished practitioners to think that it was better to amputate, than to attempt the preservation of the members. Now, however, it is conceded that there exists certain exceptions to the rule, &c." p. 81.

The exceptions noted are cases in which the wound and fracture, separately considered, are both simple and free from contusion, those in which the wound is produced by the ends of the bone penetrating from within outwards, and in which the accident may be easily reduced to the condition of a simple fracture.

"But the question rests entire for wounds accompanied by fracture by direct causes, and complicated with splinters and considerable contusion; or to speak more correctly, it is decided: these cases demand amputation. *Such has been, and such is still the opinion of the most distinguished surgeons of the capital,*" &c. p. 82.

We believe that some American surgeons of the highest eminence are somewhat blameable for amputating too seldom; but it is hardly necessary to comment upon the above passages, further than to ask whether their exceptionable character is due to errors in practice, or to looseness of language and undue decision of manner. We cannot believe that any surgeon of the Hotel-Dieu, much less the most distinguished surgeons of the capital, would consider, in civil practice, the existence of compound fractures when complicated with splinters and considerable contusion, as cases generally demanding immediate amputation. Cases coming within this description recover every day, and often with little difficulty.

In quitting this section, we will merely venture the general remark, that M. Sanson seems to carry, even further than most French authorities, the practice

of moistening the dressings with fluids, a practice which invariably lessens the security of adhesive strips when they are employed, and which often disturbs the process of reünion in the lips of a wound, by softening the scab or dried secretion which usually protects them, and in many instances leads to superficial suppuration, even when it does not produce more serious inconveniences. We are averse to any attempt at combating evils before they have actually occurred, and if cold and moisture are required in the treatment of wounds, it is only during the commencing stage of acute inflammation; if employed before the proper time, they not only embarrass the process, but may produce the very evil they are intended to prevent. This may appear a minute observation, but success in surgery, as in all other things, depends much upon details apparently trivial in their nature.

Passing over the second article, which is for the most part a mere enumeration of the cases in which union by the first intention ought or ought not to be attempted in cases of operations not involving amputations, an enumeration to which no exception can be taken, we come to the third article, *On the Advantages and Inconveniences of Immediate Union in Wounds produced by Amputation.* This is the great point of controversy in which the north of Europe, England, the United States, and the school of Montpellier may be regarded as taking the affirmative side, Paris the negative, and Italy a neutral ground. M. Sanson appears at first disposed to argue in favour of the affirmative, but his final conclusion will be mentioned presently.

It is impossible, within our present limits, to treat this subject in detail, for we should be obliged to discuss much of the matter, sentence by sentence, at considerable length. Leaving the first part of the work, then, to contend with the second, and where this fails, calling in the aid of M. Serre, of Montpellier, who has been somewhat neglected by our author, we must content ourselves with a few observations on two or three points of some importance, we will defer the argument till a more suitable occasion offers.

"The English are so persuaded of the necessity of tying even the smallest vessels capable of furnishing blood, in order to insure reünion, that in order to render them apparent, they sometimes endeavour, *according to the report of M. Avery*, to excite the circulation and local heat by causing the patient to take a little warm wine, covering the stump with a little flannel wet with warm water, frequently renewed." p. 100.

Now, though the second part of this process may have been used, although we never recollect to have heard it mentioned, the first part, i. e. the use of wine, is frequently resorted to, but with a design very different from that supposed by the author. It is very common for a patient to be found almost in a fainting condition at the close of an amputation, and under such circumstances we have even seen the femoral artery refuse to bleed. The wine is given to quicken the circulation, in order that *the considerable vessels* may be detected without unnecessary delay and exposure, for fear the reünion should be endangered. It would perhaps surprise M. Sanson to hear that we have seen cold water employed in some rare cases to check the oozing of blood, in order that the closure of the wound might not be improperly delayed in the search for very minute vessels; and that such cases have been highly successful. Doubtless there are some surgeons, both in England and America, who would approve of keeping the wound

open for an hour or more, as advised by Dupuytren, in order to discover and tie the smallest vessels, but such is any thing other than a national custom in either country. It is very rarely that half that time is allowed, nor is it customary with most to employ numerous ligatures, except in cases of unusual disposition to hæmorrhage. The doctrines of Thompson on this subject appear to have produced a false impression in Paris.

Our author attributes the greater part of the unfortunate terminations after amputation to phlebitis, which he considers as more probable in cases of attempted union, than where the opposite plan of treatment is pursued. This accident is very rare in America, and though it may be well supposed that the great hospitals of Paris are more subject to the endemic erysipelatous tendency which renders it more frequent, than are the smaller institutions in this country, we cannot avoid the impression that other causes must coöperate in producing the vast difference in results. We possess at present no means of tabular comparison, but our readers will be astonished to have the following details of the results of amputation abroad.

Observers.	*No. of Observations.*	*Proportion of Deaths.*
Dupuytren*	—	1 in 3
Roux*	—	1 in 3
Larrey*	—	1 in 6
Dubois	28	1 in 9
Lucas†	70	1 in 14
Percy†	92	1 in 15
Freere†	27	1 in 27
Maunoir†	30	1 in 30
Kennedy†	11	None.
Alanson†	36	None.

Those marked with an * may be regarded as opponents to the plan of reunion, though the two first are said not to reject it in all cases. (See Serre, Op. Cit.) M. Dubois is associated with M. Richerand, and is considered an advocate. (See the Observations of Serre on this point also.) The rest marked with a † are decided advocates of the doctrine. M. Sanson labours ingeniously to weaken the obvious force of the argument founded on these observations; with what success the reader may judge after consulting the work. He finally declares in favour of keeping the integuments separate by a roll of lint, allowing the deeper-seated parts to unite. If he had confined himself to a partial separation at one or both ends of the wound, to secure free exit to any pus accidentally formed, he would not have been without most able defenders on this side of the atlantic.

In conclusion, we would remark, that the work under examination, together with that so frequently referred to in the course of our remarks, give a very fair view of the state of medical opinion on this most important subject among the leaders of the two great schools of France, and would therefore prove a valuable addition to the library of American physicians. R. C.

XVII. *Jurisprudence de la Médecine, de la Chirurgie, et de la Pharmacie, en France; comprenant la Médecine Légale, la Police Médicale, la Responsabilité des Médecins, Chirurgiens, Pharmaciéns, &c.; l'Exposé et la Discussion des Lois, Ordonnances, Reglemens et Instructions concernant l'art de guérir; appuyé des Jugemens des Cours et des Tribunaux.* Par Adolphe Trebuchet, Avocat, Chef du Bureau de la Police Médicale et des établissemens insalubres à la Prefecture de Police. Paris, 1834. pp. 756. 8vo.

Collection des Rapports Généraux sur les Travaux du Conseil de Salubrité de la Ville de Paris, et du Département de la Seine, &c. Par V. de Moleon. Tome 1. Paris. 1830. pp. 404. 8vo.

These two works, although principally devoted to an exposition of the laws regulating the medical and pharmaceutical professions in France, contain much that is instructive and interesting. The provisions of the French law, with respect to the safety and well-being of the inhabitants of that country, are admirable, and although many of them would appear arbitrary, and could never be enforced in the United States, still there are a vast number which would conduce much to our happiness and comfort if put in force here.

The system of the French *Code Sanitaire* is excellent, and the organization of the *Conseil de Salubrité* of Paris, shows that the government of that country is fully impressed with the necessity that the members composing it should be men of intelligence, and fully competent to decide on the cases that constantly come under their supervision. A perusal of the reports of this body, as given by M. de Moleon, will show that the business of that board of health is very differently conducted from those of the United States, and present the curious anomaly that under a regal government there is more caution in infringing on the rights of its subjects, with regard to the removal, &c. of what are termed nuisances, than takes place in this country, where, from the mode in which our boards of health are constituted, orders are issued for draining ponds and the suspension of certain trades, on the mere dictum of a body of men, who, however estimable they may be in the walks of private life, are, from want of the proper knowledge, but ill calculated to decide on such subjects.

It would not comport with the character of the Journal, to enter into this subject at length, but we will merely add that we trust that if a revision of our health laws should take place, that advantage will be taken of the labours and experience of others, and that we may at least be relieved from the operation of a code of laws which are calculated rather to oppress our mercantile community, than to guard us against the "introduction of malignant and pestilential diseases."

The work of M. Trebuchet contains, in addition to the laws regulating the medical profession, several chapters on medical jurisprudence properly speaking, which are of great interest, as presenting many important cases and the reports made on them, elucidating several obscure or disputed points, especially the diagnostics between wounds, &c. inflicted by others, or with a suicidal intent. We have, however, so often drawn the attention of our readers to these and other subjects connected with legal medicine, that we shall pass them over,

but strongly recommend to those who feel an interest in this neglected branch of medical learning a perusal of this part of M. Trebuchet's treatise.

We cannot, at the same time, avoid noticing the second chapter on medical responsibility, a subject which we believe has never been touched on in this country by any medical man, with the exception of a short chapter in the American edition of Ryan, although we have numerous instances of actions for malpractice. Many of M. Trebuchet's opinions are, we think, controvertible; but, on the whole, we have been highly pleased and instructed by his exposition, and will endeavour to lay a short abstract of it before our readers.

He begins by asking, "if physicians are responsible for errors committed in the exercise of their profession," and justly observes, that although, according to the strict letter of the law, there can be no doubt that they are, yet that these very laws must necessarily prove nugatory in a majority of cases, from the difficulty of any court coming to a proper decision on the subject. In fact, as is observed by Dr. Beaude, in animadverting on the award in the celebrated trial of Dr. Helié for amputating the arms of a fœtus in utero, which was afterwards born alive and survived the mutilation—

"A physician who has been regularly educated and received his diploma to that effect, presents to society the best guarantee possible, and having thus fulfilled all the obligations demanded of him, ought to be answerable to his conscience alone, in the treatment of his patients; if not, he is at once trammelled, and would not dare to try what perhaps would afford the only chance of escape to the patient, because if it failed, or was attended with unfortunate results, he at once became responsible for these consequences. The physician who acts conscientiously, and does what he deems the best for patients who commit themselves to his care, ought to have no judge but his God; any other doctrine is false, and could have but one result, that the morality of actions would be judged of by their fruits, and not by their intrinsic merits or demerits."

We fully agree in the view Dr. Beaude has taken, but at the same time are also convinced that certain laws rendering medical men responsible for gross ignorance and inattention are required, and more especially in this country, where the most arrant and unblushing quack is considered on a par, and even inspires more confidence than the physician who has devoted his life to the study of his profession.

There is another point connected with this subject that is of no slight importance, namely, what is to be considered the standard by which a medical man is to be judged, for although the law has equal bearings on all, it is evident, from judicial decisions, that much latitude is given to it when brought to bear on particular cases; or, in other words, it has been decided that what would be unjustifiable mal-practice in one member of the profession, would not be so in another. That such is the fact, however strange it may appear, cannot be doubted or denied. Thus, Judge Weston, in the case of Lowell vs. Faxon and Hawks—

"That whoever undertakes to practice physic or surgery, holds out to the public that he possesses a competent degree of medical skill, according to the general state of the medical science in the section of the country in which he lives. The highest degree of skill is not to be expected in small towns, where there is little competition and fewer motives for exertion, from the compara-

tive want of patronage, and the limited opportunities for professional improvement."

There can be no doubt as to the correctness of the view taken by Judge Weston, under our existing laws, and yet this very opinion is calculated to lead to strange results; it in fact establishes a different standard of medical skill for each section of country, and even for each village. Who is to decide in such cases? Suppose, for instance, a physician of the highest skill and acquirements settles and practises in a certain section of country, are the professional talents and abilities of all his neighbouring brethren to be measured by his? If so, what was innocent and legal practice before his arrival, becomes criminal after his appearance.

In fact, viewed in every light, the subject is environed with difficulties. It may be said that all this might be avoided by consultations in all difficult cases, or where important operations were to be performed; but this is not always feasible, and even granted that it were, if an unfortunate result occurred the number of supposed criminals would only be increased.

We might go at greater length into this important subject, but must content ourselves at present with advising such of our readers as have an opportunity to attentively peruse this portion of the work in question. R. E. G.

XVIII. *Arzeimittellehre und Receptirkunde zum Behufe der Vorlesungen*, entworfen von Emanuel Stephan Schroff, der Heilkunde Doktor und Professor der Theoretischen und Praktischen Medicin für Wundärzte an der k. k. Medicinisch-Chirurgischen Josephs-Akademie, und Karl Damian Schroff, der Heilkunde Doktor und Professor der Theoretischen Medicin für Wundärzte an der k. k. Universität zu Olmütz. pp. 428. 12mo. Wien, 1833.

Materia Medica and Pharmacy, for the Use of the Followers of the Lectures of E. S. Schroff and Karl D. Schroff, &c.

This manual, as the title imports, is intended as an accompaniment to the lectures of the Messrs. Schroff—the former of whom is professor of theoretical and practical medicine for surgeons in the Imperial Medico-Chirurgical Joseph's Academy at Vienna, and the latter professor of theoretical medicine for surgeons in the Imperial University at Olmütz—and it is probably well adapted for the purpose, although it would be but little calculated, we presume, for any other meridian than that of Germany. In proof of this we may cite their remarks on the classification of medicinal agents as well as the classification itself.

"As all the functions of the body may be divided into two classes, namely, into those of organic or plastic (formative) life; and those of animal (sensible and irritable) life, so all remedial agents may be ranged under two divisions—one of which comprises such as affect *plastic life*, whilst the other includes such as more intimately concern *animal life*. It must not, however, be presumed that the agents of one class affect one kind of life only; we are satisfied, that each remedial agent impresses the whole life, *(des gesammte leben;)* we merely maintain, that the agents of the first class *mainly* modify *formative life*, and those of the second class *mainly* the *higher animal life*. Now, plastic life may vary from the healthy condition, both as regards quantity and quality; but the

qualitative aberrations of formative life are too little known for us to attempt a corresponding arrangement of remedial agents. We can, however, separate those that correspond to aberrations in quantity, as regards plastic life, into two orders; the first of which comprises those bodies that *moderate formative life;* wherein we include—A, *evacuants,* and B, *relaxants;* whilst the second embraces such as *elevate enfeebled formative life;* wherein we reckon—A, *plastic,* and B, *tonic* agents.

"The agents of the two classes we divide into two orders—*excitants* and *sedatives.* Each order, again, is subdivided into two genera; namely, into A, *excitants of sensible life,* which are usually termed *diffusible excitants;* and B, *excitants of irritable life,* which are known under the name of *permanent excitants.* The sedatives, again, fall into two genera; namely, A, *sedatives of sensible life,* or *narcotics,* and B, *sedatives of irritable life,* or *antiplogistics.*" S. 43.

In accordance with these views, the Messrs. Schroff offer the following table of classification.

AGENTS.

Class I.	Class II.
Affecting formative life.	Affecting animal life.
Order 1.	*Order* 1.
Moderating plastic life.	Excitants.
Genus 1. Evacuants.	*Genus* 1. Excitants of sensible life—Diffusible excitants.
Genus 2. Relaxants.	*Genus* 2. Excitants of irritable life—Permanent excitants.
Order 2.	*Order* 2.
Elevating plastic life.	Sedatives.
Genus 1. Plastics.	*Genus* 1. Sedatives of sensible life—Narcotics.
Genus 2. Tonics.	*Genus* 2. Sedatives of irritable life—Antiphlogistics.

The doses of medicinal agents, as the authors properly remark, must vary according to age, sex, temperament, constitution, habit, mode of life, nature and stage of the disease, &c. but they present the following table as in approximation to the doses required at different ages. It does not differ essentially from that of Gaubius.

"If we administer to a *man,* between 25 and 60 years of age, a drachm, as a full dose, - - - - - - - - -	60 grains.
We must give to a *youth,* between 14 and 25 years, of the same agent, 2-3ds; therefore two scruples or - - - -	40
And to a *boy,* between 7 and 14 years, the half of the full dose; therefore half a drachm, or - - - - - - -	30
To a *child,* from 4 to 7 years, a third of the full dose; therefore a scruple, or - - - - - - - - - -	20
To a child 4 years old - - ¼th - - - -	15
Do. 3 Do. - - 1-6th - - - -	10
Do. 2 Do. - - ⅛th - - - -	7½
Do. 1 Do. - - 1-12th - - - -	5
Do. 6 months old - - 1-24th - - - -	2½
Do. 3 Do. - - 1-48th - - -	1¼." S. 36.

R. D.

XIX. 1831—*Jahres-Bericht ueber das Clinische Chirurgisch-augenärztliche Institut der Universität zu Berlin, abgestatet vom Director der genannten Anstalt* Dr. Carl Ferdinand von Graefe, &c. Funfzehnte Folge, 4to. pp. 34. Berlin, 1832.

The Fifteenth Annual Report, for the year 1831, of the Clinico-Chirurgical and Ophthalmic Institute of the University of Berlin; Drawn up by Dr. C. F. von Graefe.

The periodical reports of the different hospitals of Germany are in general prepared with a great deal of care, and present always highly interesting, often very valuable information, both of a statistical and practical character. It is much to be regretted that the medical gentlemen connected with the institutions for the reception of diseased persons in this country, are not more generally in the habit of presenting in a somewhat similar form, the statistics of those institutions, together with the general facts connected with the particular class of patients received into their wards, and with the results of the medical and surgical treatment to which they are subjected. In this manner, with a very slight addition to their ordinary duties, they would be able to contribute no inconsiderable amount of valuable practical information, which physicians less favourably situated are precluded from acquiring by their own experience.

We have before us the very able Annual Report of the Clinico-Chirurgical and Ophthalmic Institute attached to the University of Berlin, for 1831, drawn up by Dr. C. F. Von Graefe. This report, in addition to a copious table, accompanied with numerous remarks, of the different accidents and diseases treated in the institution, exhibiting their character and results, contains a list of the physicians and students who attended the clinic during the year, and a series of observations on various topics connected with the cases which fell under the observation of the author as director of the institution. The several sections into which these observations are divided, are as follows:—

1. A new method of arresting traumatic hæmorrhage. In this are presented some interesting results of Dr. Graefe's successful experiments in arresting the discharge of blood from wounded and divided arteries, by a fluid, the composition of which is unknown, and which was first employed by an Italian physician of the name of Binelli, in the year 1797. 2. A case of extensive aneurismal bronchocele occurring in a young soldier, and incapacitating him, from its bulk, and the impediment it occasioned to the freedom of respiration from performing his military duties, which was completely removed by tying both of the superior thyroidal arteries. 3. A notice of the different modes of operating for cataract pursued in the Institute, and their general results. 4. Remarks on exarticulation by the linear and oval incision. 5. Remarks on Foot's operation for phymosis, which is preferred by the author. 6. A case of ramifying aneurism of the temporal artery, in a child of ten years of age, cured by an operation. 7. Case of ligature of the femoral artery. 8. Extirpation of the lower jaw. 9. Communications from Dr. Sat Desgallière. 10. Case of paralysis of the arm cured by frictions with ætherial spirits of ammonia and internally the Arnica blossoms. 11. Treatment of a general eruptive affection; and 12. On the sulphate of quinia as a preventive of cholera.

The whole number of patients treated in the Institute during the year 1821, was 1649, of which 422 laboured under diseases of the eye. Of these, 1300 were cured, and 16 died; 243 were removed to other institutions, and 90 remained under treatment at the close of the year. The number of operations performed was 416; of these 56 were upon the eye. The number of individuals who attended the Institute during the year was 287, including 136 practitioners.

D. F. C.

XX. *De l'Operation du Trépan dans les Plaies de Tête.* Par A. A. M. L. Velpeau, Chirurgien de l'Hopital de la Pitié. Paris, 1833. pp. 274. Octavo.

We have here another chirurgical treatise, upon a subject of great interest, from the prolific pen of M. Velpeau. There are few questions in surgery which have elicted more research or greater difference of opinion than that of the time and circumstances demanding the application of the trephine in injuries of the head; and perhaps no one has been loaded with more irrelevant matter in evidence, and more palpable non-sequiters in reasoning. In the work before us, there is an attempt to define the former and expose the latter, and although it must be confessed that the subject is handled with somewhat of the zeal and consequent prejudice of a partizan, we rise from its careful perusal with the impression that it is calculated to do much good, and no where more especially than in this country. It would be vain to attempt a detailed analysis of a volume nearly one-half of which consists of a rapid enumeration of facts and opinions arranged under a great variety of heads, and the great part of the remainder, of a concentrated critique upon the tenets of individuals and schools of high authority. We shall therefore confine ourselves to a very general notice of the arrangement of the work, with a passing commentary upon a few points of peculiar importance. After a very short historical coup-d'œil, the author proceeds, in the second or "dogmatical part," to notice, seriatim, all the varieties of traumatic injuries to which the head may be subjected, pointing out where he considers the trephine to be indicated or contraïndicated, illustrating his positions by many cases and numerous references to authorities.

Contusions without fracture of the cranium only demand the operation primarily when the pericranium and dura mater are both detached, or likely to become so, rendering necrosis of the bone almost inevitable. In fractures of the external table only, he recommends the removal of all detached fragments as the more adviseable course. Even when the diploe is crushed by contusing forces, he does not inculcate the use of the trephine, unless urgent symptoms supervene, agreeing in this respect with Sir A. Cooper. In fractures of the internal table only, the diagnosis is very obscure, and M. Velpeau remarks that they only demand the early interference of the surgeon, when a blow, not followed by visible fracture, produces the symptoms of a foreign body in the cranium, in which cases the trephine should be employed without hesitation, under the expectation of discovering spicula perhaps penetrating the dura mater.

In fissure attended with internal extravasation, the plan strongly recommended by some surgeons, that of widening the crack by a wedge, is justly condemned, and if the opening is insufficient to give ready egress to the fluids the trephine is recommended at once, notwithstanding that in such accidents the

chances of success are very small, because these crevices are a proof of very extensive fracture, often attended with undiscoverable mischief. In multiform fractures unattended with displacement, the trephine is only recommended in certain cases for the removal of consecutive accidents, but under the head of fractures with depression there are some very important remarks. Extensive and slight depressions may recover without inconvenience, but deep depressions are vastly more dangerous. When fixed or resistent, *they do sometimes recover without accident*, but the author thinks that when one patient might be saved ten would be lost. He grants, however, that in fixed depressions we may wait for decided symptoms before attempting to operate.

"Depression with mobility is infinitely more to be dreaded! An extravasation of blood, primitive or consecutive, is frequently the consequence. Even when there is no external wound, recovery is very rare. If the fracture is exposed, necrosis of the moveable fragments and deep-seated suppuration are almost inevitable. In all cases such depression is a permanent cause of meningitis, and pains and nervous accidents of all sorts. The operation of trepanning is the only efficacious remedy, and is imperiously indicated; unless, at least, it is adviseable to renounce all surgery in wounds of the head." p. 39.

M. Velpeau considers the trepan almost useless in cases of fracture with overlapping of the fragments, but even this rule will not hold in all instances; witness the very interesting cases mentioned by Mr. Bransby Cooper, and noticed in the review of his Essays in this number.

Under the head of gun-shot fractures and foreign bodies in the cranium, reference is made to show most clearly, that local contusions and wounds of the brain with or without loss of substance and subsequent suppuration of the cerebral matter, are not by any means invariably fatal, when the character of the injury admits of the free discharge of the fluids and flocculi; while on the contrary, every one knows that suppuration to any extent within the hemispheres is invariably fatal, when there exists no sufficient outlet. These facts are the foundation of the author's opinions on the use of the trephine in cases of the lodgement of foreign bodies of a fluid nature within the encephalon. He lays it down as a general rule that foreign bodies of every description should always be removed if their presence and location can be detected, nor does he hesitate to apply the trephine, to divide the dura mater, or to puncture the brain itsel when necessary, to accomplish this all-important end. In some rare cases leaden bullets have remained in the cavity of the cranium for years without producing death, and it is a curious and important fact, *recognised by M. Velpeau*, that lead produces less injury to vital tissues than perhaps any other strictly foreign substance. Yet these cases in no degree invalidate the law, for they may be regarded as almost miraculous. He regards effused blood as a foreign substance, and insists on its evacuation under most circumstances, but to this there are exceptions. Blood between the dura mater and the bone is always collected within well-defined limits, and is rarely found in very great amount. From the nature of the surrounding tissues it is absorbed with great difficulty, and if extravasated in sufficient quantity to produce the symptoms of compression, these can only be relieved by its evacuation. In this situation it is exceedingly prone to degenerate, and almost invariably gives rise to suppuration in consequence of the changes it undergoes. Again, its presence in any quantity insures a necrosis of the whole thickness of the bone, which is in itself a suffi-

cient reason for the operation, and the operation has a greater chance of success if performed before the symptoms of irritation produced by the change in the character of the effusion, or by the morbid condition of the tissues involved have had time to supervene. If the quantity of blood extravasated is too small to prove injurious, its presence can scarcely be detected. It follows, then, that in effusions of blood above the dura mater, the trephine should be employed without hesitation whenever the diagnosis can be made out. The same remark holds good, with even greater force when pus is secreted in a similar cavity, excepting *always* those cases in which the removal of pieces of bone completely loosened by the accident, give a ready outlet to the fluids beneath. When blood is effused beneath the dura mater, into the serous cavity of the cranium, if it is arterial, it rarely distributes itself very widely, but is frequently circumscribed by adhesions; if, on the contrary, it is venous, it may spread over a greater space before it coagulates. When the quantity is small it may be absorbed; when large it produces symptoms, the gravity of which determine the necessity of the trephine. The success of the operation depends much upon the concentration of the effusion, but as this cannot be previously ascertained, the operation is not less indicated in the one case than in the other, nor when circumstances demand a resort to the measure, does a failure furnish any valid argument against its propriety. The serosity which surrounds the effusion contributes to its fluidity and causes it to spread, in many instances, and when it has become solid it is often difficult to remove it; these and other reasons have induced Sir Astley and Samuel Cooper, Abernethy, &c. to oppose the operation. M. Velpeau, while he grants that it is much less promising than in the previous instance, still defends it to a considerable extent. He insists only that it should not be decided on lightly, "severe symptoms of compression alone justify it," in his view. p. 59. Pus similarly situated would warrant the operation if it be circumscribed, which is not often the case, but it is altogether contemned when the signs of general meningitis are present, although in another part of the work, the question of the possibility of relief from extensive trepanning in cerebral inflammation is represented as perhaps still open to discussion, because it is found that the symptoms of such disease in traumatic cases are milder in proportion to the extent in which the bones have been removed.

When blood is thrown out into the substance of the brain, he regards the case as almost beyond the reach of surgery, but thinks some good may be done if death does not immediately follow, by using the trephine as a means of giving an outlet to the ruptured portions of the brain and the effused fluids, if nature attempts such an operation, and also to give room for the swelling of the brain consequent upon the accident.

"It results from what I have said, that in traumatic extravasations of the third kind, the object of the operation of trepanning should be, less to evacuate the blood than to put the organism in a condition to expel it by little and little, together with the contused or crushed parts, as inflammation and suppuration detach them. Acting also in the same manner with the incisions made to remove constriction around parts in a state of severe inflammation, it is then the only surgical recourse, having some claim to a trial." p. 62.

In traumatic abscesses of the substance of the brain, and in suppuration from wounds of the organ when the outlet is not free, the application of the trephine

is warmly advocated. The rare cases in which patients have recovered from such affections after fistulous openings have formed into the nose or ear, after caries has been produced, and the numerous instances in which such abscesses have been discharged through the opening of fractures, are regarded as proofs of its propriety. M. Velpeau seems to advocate puncturing the brain in very threatening cases of this character, but in commenting upon an instance in which Dupuytren plunged his lancet an inch into the hemisphere, and thus reached the cavity, he remarks—

"If the condition of the patient had not been too pressing, a precaution might have been taken, and the surgeon placed more at ease in this case. This would have been to wait, after having opened the cranium and the dura mater, before going further. It might happen, as in cysts of the abdomen treated by the method of M. Graves, (Arch. Gén. de Méd.) or in the manner of M. Begin, (Journ. Hebdom. de Med.) that the sac distended by the pus, free from all compression toward one point, would generally be pushed in that direction by the expansive force of the brain. It would then be opened with great facility, if not promptly evacuated by the efforts of nature. We should have the advantage, moreover, by acting in this manner, of soliciting adhesions around the orifice made by the trephine, which would greatly diminish the danger of meningitis, and prevent the accumulation of pus between the dura mater and the brain." p. 87.

He thinks that many patients die from the neglect of the trepan in cases of purulent deposits in the substance of the brain; an opinion with which we heartily coïncide; but we may remark that in these cases the removal of a portion of bone is of exceedingly little importance unless the dura mater is also laid open by the surgeon. We have seen two cases of death *after the early employment of the trephine*, in consequence of abscess in the corresponding hemisphere produced by the contusion of the brain at the moment of the accident. In both cases the collections of pus were large, and approached within less than half an inch of the orifice in the cranium, but in neither case was the dura mater opened, although the diagnosis was clear, and death inevitable without surgical aid. Upon what principle is the surgeon excused in leaving such cases to their fate? Can he possibly do *harm* by his interposition?

In the third chapter the author speaks of "complex accidents," and considers in very few pages the indication or non-indication of the trepan in compressions, contusions, concussions, and inflammations of the brain. Under the first head there are some remarks with regard to the mechanical forces habitually acting on the brain, which are not very perspicuous, but we need not dilate upon these sections, for they contain for the most part mere corroborations of the principles already noticed. One remark we will extract.

"Unless it is slight—so slight as to produce but very feeble accidents—contusion of the brain appears to me incapable of resolution. If it is carried a little further, we see it rapidly give place to a pultaceous matter, a true mixture of blood, altered tissues, and pus, which collection is not less to be dreaded than an ill-conditioned abscess. How is this termination to be prevented or obviated otherwise than by the operation of trepanning? If the cranium is open, the contused parts may be ejected by little and little, &c." p. 97.

We cannot forbear one comment upon the prognosis of the operation if performed for the relief of contusion. The inertia of the whole cerebral mass seems to be too much neglected by authors who treat of injuries of the

head. The brain with its membranes is very compressible, in consequence of the number and size of its vessels which may be partially evacuated at any time by pressure. Now, in falls on the head, when the cranium is instantaneously arrested, the soft and yielding brain still retains its momentum, and would tend to flatten itself against that part of the cranium which first strikes the soil, were it not that the encephalon being impervious to air, the brain on the opposite side cannot quit its contact with the dura mater, without producing either a vacuum or an extravasation on that side. The former cannot occur at all, because the forces required to produce a vacuum are greater than those which would suffice to crush the cranium, and the latter cannot become considerable until some time has elapsed. But the inertia of the brain in motion, though it may not separate it from the dura mater, is sufficient to increase very greatly its pressure upon that side of the cranium which impinges, and diminishes it to an equal extent at the opposite surface. The necessary consequence of this double action is, that the blood in the vessels on the lower side is suddenly forced out, and that it rushes in additional quantities toward the upper side. The brain below is in some degree protected from the contusion by the gradual expression of its blood, which acts as a retarding force; but the reäction of this blood upon the coats of the vessels is an additional cause of danger at the upper surface. In severe falls, then, which produce no fracture, there must always be engorgement and sometimes contusion, and extravasation at the point opposite the external injury, even when there is no mischief to the corresponding side of the brain, but when fracture occurs there is injury on both sides, which, however, may be frequently less important at the wound than on the other side of the head. On the contrary, in injuries received from bodies in motion, such as stones, canes, &c. the inertia of the brain has little effect, and the contusion and extravasation are almost always found near the external wound. In the latter cases the prognosis after operating would be more favourable, while in the former, the trephine must be sometimes applied on the side opposite the blow, or, (if there be fracture with depression,) on both sides, and in either case the chance of success is much diminished. Extravasations and contusions from this species of contre-coup can very rarely occur externally to the dura mater, and therefore their presence is only inferred from the nature of the paralysis which supervenes; the uncertainty of the diagnosis adds then to the difficulties of the case; yet we are by no means prepared to oppose the views of M. Velpeau as to the indications of treatment.

The author then proceeds to consider the more remote morbid consequences of injuries of the cranium, such as fixed pains at the site of the former wound, whether permanent or intermittent, convulsive or tetanic movements, or true epileptic paroxysms. When such cases become threatening the trephine should sometimes be employed, care being taken to avoid deception from mere nervous symptoms, and sympathetic affections which may falsely appear due to the injury. A considerable number of references to authority are adduced in relation to the propriety and safety of operating under such circumstances.

The fourth chapter is given chiefly to the symptomatology of the several classes of injury to the head—irritation, compression, contusion, concussion, and inflammation. It contains some interesting remarks, but it is to be regretted that M. Velpeau has not enlarged this portion of the work so as to present

a more complete view of the diagnosis, particularly in cases of a mixed character. The next chapter treats of the application of the trephine on various parts of the cranium. Neither the vicinity of the great sinuses, nor the chief trunk of the middle artery of the dura mater, are considered as objections to its use. Hæmorrhage from the former vessels, he thinks, may be readily arrested, and that from the latter is not generally alarming. The necessity of involving the sutures, or dissecting the temporal muscles, is not held a more serious objection, and when circumstances require it he recommends the operator to disregard the frontal sinus, the occipital and parietal protuberances, and even advises the occasional application of the trephine over the cerebellic fossa and the mastoid process.

Lastly. The dogmatic part of the work is completed by a few remarks on the degree of importance attached to the operation of trepanning without reference to the accidents that demand it. It is treated as a proceeding attended with little intrinsic danger, and as by no means severe. That both the difficulty and the probable ill effects of the operation have been greatly exaggerated we can well believe. According to M. Velpeau, the only plausible objection urged against the use of the trephine, when distinctly indicated, is the consequent exposure of the brain to the air.

"The idea of Munro, revived by Bell, (Benjamin Bell?) as to the danger of placing the serous surfaces in contact with the atmosphere, has taken such deep root in the minds of surgeons, that it is almost rash to think of disputing it." p. 142.

Our author does dispute it, and very ably too, though he may be pleased to hear that the doctrine has not taken deep root on this side of the Atlantic, nor is it by any means so prevalent as he seems to think in Great Britain.

Of the third part of the work, entitled an "*Estimate of Doctrines and Facts,*" we shall have little to add after recommending it to the perusal of all who have access to the work. It is a gentlemanly review of the opinions of the most distinguished surgeons, occasionally severe, but always fair and candid. In the chapter on American facts and opinions, he notices the paper of Professor Eve, published in this journal during the last year, the report of cases by Dr. Norris, house surgeon of the Pennsylvania Hospital, and the very important communications of Professor Dudley, of Lexington, in the *Transylvania Journal of the Medical Sciences.* Beyond these facts, he says, "we find almost nothing upon the trephine in the writings published by our profession in the United States." p. 192.

The fourth and last part is given to the consideration of the occasional ulterior ill consequences of the operation, such as tumours issuing by the opening, hernia cerebri, swelling, or what M. Velpeau calls rarefaction of the bone, &c. The last-mentioned affection is nothing else but an enlargement of the solid portion of bone, affected by the vessels of the bone itself, independently of its membranes, and which sometimes produce pressure on the brain long after the cicatrix appears perfect, as it did in a case but too well-remembered in this city, in which, after recovering from a fracture from a pistol-shot the patient recovered, but died a long time after, from the effects of such a tumour. This case is alluded to in the work under notice.

In taking leave of the reader we recommend the perusal of this treatise to all

American surgeons, not for its originality, but for its candour. It is rich in interesting cases and references, and appears to establish most completely many of the principles advocated. We cannot go the quite full length with M. Velpeau in recommending the trephine in certain cases, but we firmly believe that those who read his remarks will be prepared to act with more decision than is now customary in cases of injuries of apparently desperate character. There is one principle advocated by some very distinguished men in this country, which is sometimes applied, by their juniors at least, in a manner deserving of all reprobation—it is this, that a dangerous and extremely doubtful operation is to be avoided in many cases, simply because the failure may compromise the reputation and destroy the usefulness of the surgeon! This feeling, to our certain knowledge, has prevented the use of the trephine in many cases in this country. Now, though we are no ardent lovers of mutilation and the knife, we never witness a surgeon in debate upon a case involving the certain loss of life, if left to nature, and making out his opinion of the *indications* by casting his *reputation* into the scale, but with a kind of nervous shudder and certain reminiscences of a court and jury. R. C.

XXI. *A Compendium of Operative Surgery, intended for the Use of Students, and containing a Description of all Surgical Operations. Illustrated with Engravings. No.* 1. By Thomas L. Ogier, M. D. Lecturer on Anatomy and Operative Surgery, and Thomas M. Logan, M. D. Lecturer on Materia Medica and Therapeutics. Charleston, 1834. pp. 262.

A suitable manual of operative surgery, illustrated by plates, and adapted to the state of the art in this country is very much wanted, and we took up this little faciculus in the hope that it would prove the commencement of such an undertaking; but candour compels us to confess that our hopes have not been altogether realized.

The first number, the only one yet published, treats of the various forms of incisions, and the mode of handling the knife in performing them, the several varieties of suture, the different species of ligatures, the mode of tying the temporal and facial arteries, and the operation suggested by M. Manec for securing the lingual artery. In the introduction, the authors acknowledge the extent to which they have used the well-known works of MM. Manec, Coster, Velpeau, Sabatier and Blandin, and indeed the whole aspect of the number is peculiarly French. Waving all remarks upon the rules for holding the instrument and making incisions, not because they are perfect and unexceptional, we may notice that the bistoury is the instrument described as appreciable to almost all cases, and little more than a bare allusion is made to the scalpel, while as it is well known the instruments generally called by the former name are scarcely ever used in this country, except in punctures, in cutting from within outwardly, in laying open fistulæ, or in dividing parts upon the grooved director. The broad bistoury figured in the first plate, and fitted for great incisions, is an instrument which we have never seen employed. The English scalpel placed beside it, with the steel continued through the handle, and terminated by a rasperatory is only seen in trepanning cases, and this particular specimen with its acuminated point, has a form very ill adapted to the uses to which

the scalpel is usually devoted. Moreover, the long, conical director which always reminded us of the apparatus major, is miserably adapted to the end for which it was designed. Notwithstanding the many excellences of French surgery, it may be remarked in perfect fairness, that the French were never noted for the excellence or beauty of their instruments. It is difficult to avoid the question, whether the author's could furnish the originals of these drawings from their own cabinets.

The crucial, the V, and the T incisions are all directed to be made with the bistoury, and the directions are adapted to that instrument only, but the authors acknowledge that the eliptical incisions should be always be made with the scalpel. So, we think, should the others, unless under very peculiar circumstances.

In the description of sutures, no notice is taken of the fact that the interrupted and twisted sutures are almost exclusively used in this country. The quilled suture is an excellent resource in very extensive incisions, particularly on the abdomen, and the looped suture may *possibly* have its applications in some of the operations for the cure of deformities; but the glover's suture!—what doth it here! However, we believe it was once used after *a very celebrated ovarian operation in New Jersey, performed hors de la profession.* There is one objectionable circumstance in the plate representing the several sutures. In works designed as manuels for beginners, care should be taken that the illustrations of treatment should represent the remedy as applied in cases demanding its use; now, if we except the hare-lip, and possibly the wound of the nose, none of the incisions figured in the plate require a suture at all. This may be regarded as hyper-criticism, but the first impressions made on the mind of a beginner are exceedingly important, and the matters of which we are speaking are purely elementary.

In speaking of the different modes of arresting hæmorrhage, the authors, we were astonished to find, make use of the following sentence.

"To arrest hæmorrhage during operations on the extremities, surgeons *formerly* used the tourniquet, which is so perfectly familiar to every one that it is useless to describe it here. Its application being very painful to the patient, it has fallen very much into disuse in France. In England and America it is *occasionally used,* though not so often as formerly." p. 18.

The substitute mentioned is, of course, pressure by the thumb of an assistant on the principal artery of the limb. We cannot but esteem the authors mistaken on the facts of the case, but as it regards the expediency of the substitution, under circumstances which admit of a choice, we differ with them most decidedly, and feel confident of support in our opinion from four-fifths of the profession out of France, and from no small number in that country. Though pressure on the inguinal artery may not be very painful, it does not perfectly command the circulation of the limb, and certainly pressure on the subclavian is vastly more painful than the tourniquet, while it requires some skill in the assistant, and when the patient is restless, or the operation protracted, it is exceedingly insecure.

The authors advocate the torsion of the smaller arteries in preference to the ligature. We have so recently spoken of this plan of treatment that it is unnecessary to repeat the remark. (See Bibliograph of Sanson on Reünion in this number.) They mention the different forms and materials for ligatures, but take no

notice of the almost total condemnation of the flat ligature, and the scarcely less universal abandonment of animal ligatures in the country of their birth. Allusion is made to the beautiful forceps of Dr. Physick, for securing deep-seated arteries, and a figure is given in illustration, but by some strange misconception the needle is fixed in a position the reverse of the true one, thus depriving it of almost all the advantage derived from the forceps, and making it scarcely applicable to any artery beyond the reach of the needle alone!

We might make some further strictures, but the task is disagreeable. Some of those already made, fall most heavily upon the authorities from whom the instruments and measures censured are derived: but as these latter have been adopted in an American book, designed for the use of American students, we have felt it to be our duty to notice them more pointedly than we should have done had they been presented to us in their original dress. Doubtless the details of the more important operations will be much more interesting and valuable as the work proceeds. Wishing it success, we would only suggest, in closing these remarks, that it might be adviseable to draw the instruments from such as are in actual use on this side of the Atlantic, and which have therefore undergone the last improvements of Yankee ingenuity. R. C.

XXII. *Du Choléra-Morbus en Russie, en Prussie et en Autriche, pendent les années* 1831 *et* 1832. Par M. M. Auguste Gerardin et Paul Gaimard, Membres et Commissaires de l'Académie Royale de Médecine, Envoyés en Russie par le Gouvernement Français, pour Etudier le Choléra. Deuxeme edition. Avec trois Planches gravées et coloriées, &c. &c. Paris, 1832. pp. 340. 8vo.

This volume comprises ten letters addressed to Count D'Argout, Minister of Commerce and Public Works of France, by the commissioners sent to Russia to study the cholera; with an appendix, consisting of an account of the plague of Moscow in 1771, compared with the cholera which prevailed in the same city in 1830 and 1831, together with various official documents relative to the progress of cholera, sanitary cordons, &c. &c.

The first nine letters are principally devoted to an account of the progress of cholera in the north of Europe, and of the means taken to arrest its march by sanitary cordons, with abundant illustrations of the futility of these measures, and even of their absolutely injurious tendency. We have, on a former occasion considered these subjects, (see No. for May, 1832,) and shall not now again discuss them; the more especially as subsequent observations have not led us to alter the views already presented. The tenth letter in the work before us is devoted to the consideration of the symptoms, anatomical lesions, and treatment of cholera.

The symptoms of this disease are unfortunately too familiar for it to be necessary to repeat what is said by our authors on this subject; but we must not pass by in silence the interesting clinical experiments of Dr. Czermak, Professor of Physiology in the University of Vienna, respecting the low temperature of the body, a *constant attendant* on this disease. From the experiments alluded to, it results—1st. That the feet are constantly found to have the lowest temperature, next the hands and the tongue, then the body, neck, scrobiculis

cordis, &c. (MM. Gerardin and Gaimard state that in the experiments made by themselves, the tip of the nose was found to be colder than the feet, whilst the region of the heart and the arm-pit was always the warmest.) 2d. That the temperature of the feet was as low as 14° R. and that of the tongue 15° R. Consequently there is no disease in which the temperature of several parts of the body descends so low as in cholera. In fainting, lypothymia, and the chill of intermittent fevers, the temperature of the body is never lower than 22° R. 3d. That the temperature may be of great importance in aiding our prognosis. In fact, no example of cure has been cited in which the temperature was below 19° R. and the higher the temperature was above this, the more favourable, cæteris paribus, is the prognosis.

We must also quote the following experiments of the same learned professor, relative to the temperature of the blood, compared with that of the other parts of the body. These experiments were made in a room, the temperature of which was from 15° to 16° R. and the blood examined was always drawn from the arm.

1st. Woman, æt. 27. Cured.	Tongue	23¼° R.
	Hands	21⅓
	Feet	19¾
	Blood	24¾
2d. Woman, æt. 39. Died.	Tongue	19⅜
	Hands	19⅜
	Blood	20¼
3d. Woman, æt. 54. Cured.	Tongue	24⅛
	Hands	25⅛
	Feet	23
	Scrobiculis cordis	25 1-16
	Blood	26 1-6
4th. Woman, æt. 21. Died.	Tongue	19
	Hands	18
	Blood	21¾
5th. Woman, æt. 62. Cured.	Tongue and air expired	20⅛
	Hands	22⅛
	Blood	22¼
6th. Man, æt. 48. Died.	Tongue	23
	Hands	22⅓
	Blood	26
7th. Man, æt. 60. Cured.	Tongue	25⅛
	Hands	23¾
	Blood	27
8th. Man, æt. 32. Died.	Tongue	21
	Hands	20½
	Blood	21¾

One of the most interesting points in the history of cholera, is the changes in the composition of the blood; and our authors have collected some valuable information on this subject. M. Hermann, professor of chemistry at Moscow, found the blood of a young man in good health, to contain 43 parts of coagulum, and 57 parts serum, the latter having a specific gravity of 1.027. In persons labouring under cholera, the normal proportion of these constituents of the blood are always different; the quantity of the first being always increased, and that of the latter diminished. Moreover, what is very remarkable, and this observation has been amply confirmed by subsequent analysts, the proportion of

coagulum increases with the violence of the disease, so that it attains its maximum just before the death of the patient. When the patient recovers, there is observed an alteration in the composition of the blood, progressively diminishing. The proportion of the constituents of the blood, according to the intensity of the disease was in 100 parts—

Coagulum,	50	55	60	60.3	62.5
Serum,	50	45	40	39.7	37.5
	100	100	100	100	100

The blood of a patient who had had cholera, and who was afterwards attacked with a febrile paroxysm, presented the following proportions.—Coagulum, 44.25; Serum, 55.75 = 100. The proportion of albumen in the serum also augments in proportion to the intensity of the disease, and attains its maximum just before death, as is proved by the following experiments of Professor H. The specific gravity of the blood of a person attacked with cholera at the onset of the disease before he had had any watery evacuations was 1.027, the specific gravity of the blood of a healthy person as just stated. But as soon as this crisis occurred, the quantity of water in the serum commenced to diminish; the specific gravity of the blood increased to 1.028, subsequently to 1.032, and blood drawn from a patient four hours before his death, was found to be 1.036.

These observations on the alterations in the proportion of the constituents of the blood, are confirmed by the experiments of M. Wittstock of Berlin. He has found, that when the blood taken from the right ventricle of persons who had died of cholera, was carefully dried, 30 per cent. of solid matter was always obtained, whilst in health, blood only yields 21 per cent. This skilful experimenter, also found the serum of the blood of a man aged twenty years, who died of intense cholera, to have the specific gravity of 1.0447, and to yield on evaporation 16½ per cent. of solid matter. The blood was drawn by bleeding some hours before death. In a young woman in good health, M. W. found the specific gravity of the serum to be 1.028, and this liquid to yield 9½ per cent. of solid matter. The serum of a cholera patient who was cured, yielded 14½ per cent. of solid matter, and its specific gravity was 1.041.

The fluid of the alvine dejections, it is stated, were found to be very alkaline, to become opaque by the action of heat, and to be rendered turbid on the addition of corrosive sublimate, showing that it contained much albumen. The repeated analysis of the dejections in the hospitals of Berlin, are said to have always given the same results. These results are the reverse of those obtained by Dr. Twining of Calcutta, who states that he found the conjee stools not coagulable by heat.

The following is a summary of the lesions observed in cholera, as given by our authors.

"The more rapidly fatal the disease proves, the less constant, marked and identical are the cadaveric lesions; sometimes even there is no appreciable disorder. This absence of all lesion, however, is an evident proof, that the derangement of the system of inervation ought to be considered the first and most important.*

* The correctness of this last proposition might be contested; and we think, controverted.

"The afflux of blood to, or the active congestion of the intestinal canal, appears to be especially concentrated upon the mucous membrane of the small intestines. This membrane is tumefied, spongy, impregnated with a whitish fluid. the exudation of which it is the seat, at first clear and watery, becomes more consistent, and lines the internal surface of the mucous membrane with a flocculent or gelatinous substance, very similar to a pseudo-membrane.* This exudation is sometimes traversed by very fine capillary vessels, which are particularly observed at those points which adhere most firmly to the intestine.

"To this series of phenomena there is joined, the suppression of the urinary secretion, and doubtless also, that of the pancreatic liquor; the bile retained in the gall-bladder, no longer flows into the alimentary canal: then, either the plasticity of the secretions increase, and the alvine discharges are moderated; or, what is frequently the case, the albuminous lymph secreted remains suspended in the intestinal fluid, in the form of white flocculi.

"In consequence of this intestinal exhalation, the mucous membrane swells, and resembles a very fine porous sieve: its valves, especially those in the jejunum, become flaccid and floating, and of from two to three lines in size. The tissue of the intestine is of a rose colour; glandular, tubercular bodies of various sizes are developed, especially in the lower convolutions of the ileum. We will presently describe the structure of these recently-formed bodies.

"The dejections composed of a bloody water, mixed with brown or reddish flocculi, indicate in general the approach of death. In this case there is found a considerable softening of the mucous membrane, especially of the middle and lower portion of the small intestines: this membrane is of a grayish-red, and appears infiltrated with water and bloody mucus; moreover, we find that the extremities of the vascular ramifications are free and as if open on the surface of the intestine; by slight friction small cylinders of coagulated blood may be pressed out of them. If the disease has been very violent and promptly fatal, there is often observed ecchymoses and even very extensive sanguineous effusions, which extend over entire convolutions of the intestine.

"These alterations progressively diminish in the mucous membrane of the cœcum and colon, so that this membrane is found only relaxed, coloured in many places of a bluish-red, and covered in places with small tubercles which more rarely unite forming plates." pp. 134–7.

These different alterations have been observed by the German physicians, and particularly by the learned professor of pathological anatomy, at Vienna, Dr. Wagner. The granulations and plates, our authors think, should not be considered as causes, but as accidental effects of the disease, since they are not constantly found in cholera patients, and analogous though less marked alterations had been observed at Vienna several months before the appearance of cholera. The granulations and plates just noticed do not consist, it appears, of enlarged glands of Brunner and Peyer. In fact, this kind of tuberculiform eruption exists not only at the lower part of the small intestines and commencement of the cœcum, but is met with in the stomach, œsophagus, and even in the tongue.

* We have been shown by our friend, Professor Horner, a portion of the small intestine of an individual who had died of cholera the present autumn at the Philadelphia Alms-House, completely lined with this pseudo-membrane, and which in every respect resembled the membrane sometimes found lining the trachea of those who die of croup. We are promised for a future No. an account of the researches of the distinguished anatomist just spoken of, into the anatomical lesions in cholera.

Professor Czermak, and his adjunct, M. Hyrtz, have made some minute injections and microscopical observations in order to discover the nature of these lesions, and the results of their investigations show, according to our authors, that the alterations in question are not erosions, for there was no extravasation of the matter of the injection. This matter passes easily into the follicles of Brunner and Peyer, but not into the tuberculiform bodies; but the intestinal villi are more readily injected than in other bodies: these injections are also made as readily, and even more easily by the veins than by the arteries, in cholera patients. But if the lymphatic vessels are injected, the tubercles and plates regarded as erosions are equally filled; whence it results that these tubercles and plates result from the development of the lymphatic vessels, so well described by Hedwig, Rudolphi, &c.

Our authors state that they saw in Russia and in Prussia, in many post mortem examinations, and at Vienna in numerous preparations preserved in spirit of wine, at the lower portion of the small intestine, elliptic or spherical plates of the diameter of from half an inch to even two inches, the surrounding villi being normal, whilst those at the circumference of the plates were more developed, showing the size of these plates. Sometimes the development of these villi, as they changed to form the plates, could be distinctly observed. A beautiful coloured plate illustrative of the lesions we have noticed is given.

Much interesting information has likewise been collected by our authors, relative to the remedial powers of various measures proposed for the cure of the disease in question. When the disease first invaded Europe many physicians thought that the disease was a form of malignant intermittent fever, and that it might be cured by bark. Unfortunately, experience has not justified this hope, and after the numerous trials that have been made with this remedy without success, our authors think themselves justified in confidently advancing it as an axiom, that—

"Bark and its preparations administered with the view of treating algid cholera as a malignant intermittent have not produced the beneficial effects which were expected."

Other practitioners with the view of arresting the evacuations resorted to opium and its preparations as the basis of their treatment; but these were found according to our authors to increase cerebral venous congestion, and they were finally proscribed in Russia, Prussia and Austria.

The physicians of the north of Europe believed that they could arrest the afflux to the digestive organs, by exciting an active derivation to the external surface. With this view they resorted to vapour baths and frictions. The patients surrounded with vessels filled with hot water, parched oats, hot sand, &c.; and hot drinks were administered. The result of these measures, for the most part, was to precipitate the progress of the disease. Hot drinks increased the changes, rendered the thirst inextinguishable, and produced renewed evacuations; the different articles and numerous coverings with which the patients were overburdened, were so insupportable, from the uneasiness, anguish, and inexpressible anxiety which they determined, that the dying summoned all their strength to relieve themselves from them. These measures in all instances exhausted the strength of the patients, and destroyed the little vital energy

which lead to or induce the period of reäction. Vapour baths were particularly employed in Russia, but their utility was considered so doubtful that their use was abandoned in Prussia and Austria. In France, England, and in this country, where these measures have been subsequently employed, their inefficacy and even injurious tendency have been fully recognised. Had the practitioners in these latter countries taken proper measures to ascertain the results of experience elsewhere, much suffering might have been spared to cholera patients.

As to the various stimulants, our authors state, that—

"All practitioners agreed in regarding them as often inefficacious, and still more frequently as aggravating the symptoms they were given to relieve."

The mode of treatment which seems to have united in its favour the most eminent practitioners of the north of Europe, is that by *emetics* and *cold*. The following was the method of treatment pursued at the temporary hospital of Aboukoff at St. Petersburg, and by means of which cures were effected which often struck our authors with astonishment.

"As soon as the patient entered the hospital he was placed in a bath of from 28° to 30° R. (95° to 100° Fah.) and retained in it for half an hour or an hour; he was then placed in a warm bed and rubbed all over with ammonia, whatever might be the intensity of the disease. A draught, containing four or five grains of emetic, was immediately administered in divided doses, and at shorter or longer intervals. As soon as the action of the medicine became manifest, the nature of the matters vomited changed; they became better, and presented a bilious and poraceous aspect. From this moment the cholera vomiting ceased and rarely returned; the diarrhœa was arrested, or much diminished; finally, after some hours the symptoms of reäction were progressively manifested; in a word, the algid cholera was changed to febrile or inflammatory cholera." p. 149.

Our authors have presented in much too favourable a light the results of the above treatment. Thus they state that of 313 patients treated by the above method, 231 were cured, or 74 per cent. which is extraordinary success in cholera. But it appears from a table joined to the work that the whole number of patients received into the hospital of Aboukoff was 626, of which number 122 were received dead, leaving 504 actually received alive into the hospital, of which number 106 died in twelve hours, 85 in twenty-four hours, 55 in three days, 14 in six days, 13 in ten days and after; making the whole number of deaths 273, and cures 231, which shows the mortality to have been upwards of one-half. To make out the favourable results of treatment as given by our authors, all those who died within twenty-four hours after admission are considered as received in the stage of agony, and are excluded, and those only who lived beyond the period just mentioned are considered as having been treated. Now if those patients alone who are received before collapse, or who live upwards of twenty-four hours after being taken under treatment are to be considered, there are few hospitals or modes of treatment which cannot boast of great success. We do not think then that any evidence has been furnished of great success having attended the method adopted in the hospital of Aboukoff, and certainly subsequent experience has not induced practitioners to repose any confidence in this method of treatment; indeed both the warm bath and tartar emetic appear to have been pretty generally abandoned.

At Vienna, our authors state, that the ipecacuanha was administered with positive success in the different forms of the disease, and at different periods of the epidemic. The employment of this substance was not limited to a particular establishment, its use was general in the civil and military hospitals of Austria, and every where it is said to have justified the confidence of practitioners.

"The ipecacuanha was commonly administered in the dose of from 10 to 15 or 20 grains, at once or in divided doses, according to the age and constitution of the individuals. If in an half hour or hour, this remedy did not operate, it was repeated a second or third time; its action being favoured by warming the patient and exciting perspiration, (unless it rendered him uncomfortable,) by means of dry heat. The limbs were surrounded with flannel or warm cloths, and repose and even immobility of the body was recommended. The horizontal position was preferable to every other. Attentive nurses watched the motions and administered to the wants of the patients, who were strictly forbid not to rise or leave their beds, for when they did so, as soon as they returned to them they fainted and speedily died. Cold drinks, often slightly acidulated, replaced with great advantage, the hot and aromatic infusions to which the patients exhibited a great aversion; finally, cauterizing sinapisms over the abdomen, over the chest and even upon the neck; frictions with camphorated, volatile liniment, combated with much success, the spasms and cramps in different parts of the body. By the combined employment of these means, algid cholera speedily terminated in a return to health, or assumed a second form, or that of reäction." p. 158-9.

The evident success obtained by the use of cold drinks, soon gave rise to the treatment of algid cholera by cold. The following is the account of this method as employed by Dr. Günthner, at the great general hospital of Vienna.

"*Cold* was employed *internally* and *externally*, in the form of water and ice.

"Internally, according as a greater or less degree of cold was desired, recourse was had to spring water, ice water, and even small pieces of ice. Spring water was given by mouthfuls, every two or three minutes. Ice was administered in pieces of the size of a hazel-nut, every five or ten minutes. In mild cases the degree of cold was gradually augmented, but when the disease was violent and urgent, the highest degree of cold was immediately used; it was continued even during the increase of diarrhœa and vomiting; and when these symptoms had ceased or subsided in an evident manner, the intensity of the cold was by degrees lessened, until it was at the temperature of water which had remained some minutes in a room at the temperature of 12 or 15° Reaumur.

"When the diarrhœa did not yield to the use of ice internally, it was stopped by one or two injections of cold or ice water. Externally, cold was employed in the form of lotions of cold or ice water, and frictions on the surface of the body with pieces of ice. The lotions were applied with sponges or towels. The limbs and sometimes the whole body were rubbed with ice until they began to grow warm, which most usually occurred in five or six minutes. Then the patient was rapidly dried with towels moderately warm in which he was enveloped. Soon and gradually the surface of the body increased in temperature; vital turgescence insensibly developed itself, the choleric appearance of the face and the spasmodic pains of the inferior limbs was dissipated, perspiration more or less free, announced that imminent danger no longer existed.

"In the most violent cases, the more the features of the face were distorted, the smaller and more insensible the pulse, the colder and more livid the surface of the body, the more violent the cramps of the limbs—the more necessary was it to persevere in the internal and external use of cold. In these cases frictions with ice were preferable to lotions with cold water.

"An important remark, which we must not pass over in silence, is, that the

external employment of ice was always preceded by its internal administration; the former was never used alone; moreover when the lotions or frictions were discontinued before the body had become warm, precious time had been lost and it was necessary to recommence their employment.

"A phenomenon of much interest, is the agreeable sensations experienced by the patients after this treatment; they ask for and insist on the repetition of the otions and frictions, they drink the cold water, and suck the pieces of ice with inexpressible delight; they reject with a kind of horror all medicaments. Certainly if nature has given to suffering man an instinctive faculty to discover remedies appropriate to the nature of his disease, it can be affirmed that the action of cold is the only one that will always be agreeable to cholera patients, and which will invariably be sought by these unfortunate beings even in their last moments. Even when the termination of the disease was unfortunate, it was still easy to recognise the energetic influence of this method, by the various modifications it exercised on the circulation, the colour and heat of the skin, the quantity and nature of the excretions, &c.

"From the middle of September to the end of October a hundred patients were treated by this method, of which number, sixty-five recovered, and thirty-five died. From the last of October to the 12th of December, forty-two patients received this treatment, of this number thirty-four were cured, and eight died.

"It appears from these authentic documents, that of all the curative methods that by cold has proved most efficacious, since nearly two-thirds of the patients were cured by it, a proportion of cures not yet obtained in any other country.

"The employment of cold has also other advantages. Whilst hot drinks excite only disgust, increase the thirst, and in place of relieving it, produce anguish and agitation; cold drinks, on the contrary, gratify the wishes of the patients, render them calmer and more docile. These drinks also supply rapidly to the system the losses caused by the excessive evacuations."

Under this treatment a prompt cure is often obtained; but in violent cases, an inflammatory state supervenes, most frequently congestion of the brain and chest. These congestions and local inflammations cannot be ascribed, however, to the action of cold, as they supervene after every method of treatment. They demand for their cure antiphlogistic remedies.

The details of six cases treated according to the above method have been given by our authors.

In desperate cases an attempt was made in Vienna to cure the disease by the conjoined employment of cold and stimulants; but of fifty-eight cases, nineteen only were cured.

From the space we have devoted to this work, it will be readily concluded, that we estimate highly its merits. Indeed, notwithstanding the many works which have since appeared on the subject, and the enlarged experience the profession has had in the disease of which it treats, this volume may be consulted with much advantage; and may be ranked among the most valuable contributions to our knowledge of the terrible scourge which has swept over the greater portion of our globe, and is even at the present moment committing its ravages in various parts of our country.

XXIII. *General Observations respecting Cholera Morbus.* By J. N. Casanova, C. M. D. of the Royal College of Medicine of Cadiz. Philadelphia, Carey & Hart. pp. 173. 8vo.

The principal novelty in this work is the recommendation of tobacco smoke as an enema in cholera. Dr. Casanova asserts, that—

"Out of two hundred and five *successful* cases which have been treated by myself and two *other* medical friends of Calcutta almost exclusively with the tobacco smoke, there was not one single death."

We do not feel disposed or prepared, having no experience with the remedy in this disease, to discuss the advantages of this mode of treatment, and will therefore submit the question without comment to the decision of the reader, upon the testimony, somewhat equivocally expressed, it is true, of the author, merely adding that his mode of administering the remedy is as follows:—

"For the purpose of injecting the tobacco smoke into the intestinal tube, I use a patent enema syringe, with two cocks instead of valves, to be moved by a lever, which performs the same operation as an air-pump, *(such as those stomach-pumps made by Maw & Son, London.)* At its *bottom end* I apply the tube to be introduced into the anus, which is to convey the smoke into the intestines: at its *side end* I adapt a large common German pipe, or something like it, but of a good size to hold at least four drachms of tobacco finely cut, and a *good* piece of fire on the top of it." p. 170.

The object of Dr. C., as stated in his introductory remarks, that of making himself useful to suffering humanity, is a highly laudable one, but we must suggest that this object might have been better accomplished had he submitted his manuscript to the revision of a competent person, before committing it to the press. As the production of a foreigner, writing in a language with which he is evidently not familiar, we would be well disposed to overlook "some peculiarities of style and arrangement" in the work, but these peculiarities are so monstrous, as to deter us in some measure from examining the opinions of the writer, being not sure that we clearly comprehend them. We are led to entertain these doubts, not only from the many inaccuracies of expression, of which the brief extracts we have made will furnish examples, but also from the startling character of some of the assertions. Thus, among other statements, Dr. C. avers that—

"Having analyzed the blood of many subjects dead of the real cholera morbus, taken from their bodies from four to twelve hours after death, I have invariably found in it the same proportions of serum as those generally found in that of healthy persons."

Now, this statement, if we rightly understand it, is in direct opposition to the observations of every writer we have examined, and positively the very reverse of what we have seen ourselves.

QUARTERLY PERISCOPE.

FOREIGN INTELLIGENCE.

ANATOMY.

1. *Some Points in the Anatomy, Physiology, and Pathology of the Vertebral Column.*—The bulletin of the "Anatomical Society," in the *Archives Générales de Médecine* for March, contains a paper by M. Chassaignac, under the above title, which is worthy of notice, and of which the following is the substance:—

In this paper M. Chassaignac draws the attention of the "Anatomical Society" to the existence of certain osseous tubercles, situated at the base and behind the transverse processes of the lumbar vertebræ, on the same line with the articular processes, but a little below them. These little tubercles present the appearance of a mamellated process, especially in the two last dorsal vertebræ, and serve as points of attachment to the tendinous slips of the longissimus dorsi muscle, which has been erroneously described as attached to the articular processes.

The sixth cervical vertebræ also presents another tubercle, which we find, but in a less marked degree, in the other vertebræ of the neck. This tubercle is placed in front of the transverse process, and is the more prominent as the individual is advanced in age; it varies considerably, both in size and form, in some subjects being nothing but a simple osseous slip; in others forming a perfect hook, with the concavity turned forward. This process corresponds with the primary carotid artery, which is placed in front, and a little to the inner side of it, and furnishes so certain a guide to the vessel, that by placing a finger on the eminence, we may plunge a scalpel into the artery with the eyes shut, without any previous incision. In consequence of this connexion, M. Chassaignac has given it the name of *carotid tubercule.* The process can be easily felt through the integuments, at least in the dead body, being only covered by the skin, subcutaneous muscle, cervical fascia, and exterior edge of the sterno-cleido-mastoid muscle. To find it, we have merely to extend the neck slightly, and press the finger on the inner edge of the above-mentioned muscle, two inches above the clavicle; at the same time we should be careful that the neck is perfectly straight, for the least rotation is enough to alter the relations between the artery and tubercle. In the living body the process is not so easily discovered, in consequence of the greater resistance given by the subcutaneous and sterno-mastoid muscles.

In an anatomical point of view, the tubercle of which we speak serves to distinguish the sixth cervical vertebra from all the others, and to determine in a positive manner the situation of different organs in the cervical region. As applied to surgery, a knowledge of this process may serve to direct us with the greatest certainty to the primitive carotid, and in this respect is analogous to the osseous tubercle on the first rib, close to the edge of the subclavian artery.

It also presents a surface well fitted as a point d'appui to compress the vessel in cases of sudden hæmorrhage. In the case of a penetrating wound, with hæmorrhage, inflicted in the neighbourhood of this process, the blood may come either from the primary corotid, from the inferior thyroid, from the vertebral artery, or from the posterior or ascending cervical branches. The relations of these different arteries with the process in question may serve to determine the precise source of the hæmorrhage, a question otherwise extremely difficult to resolve. It is immediately below this process that the vertebral artery penetrates into the canal of the cervical vertebræ; the posterior cervical is below, and a little external to it; the inferior thyroid, crossing behind the carotid artery to gain the thyroid body, is also very close to it; the tubercle will, therefore, serve as a useful point *de depart* for the exploration of the surgeon when about to apply one or more ligatures. Should any difficulty be experienced in seeking this tubercle through the integument, it is immediately obviated by a division of the skin and superficial layer of tissue.—*Lancet, May 24th*, 1834.

2. *Communication of the Optic Nerves.*—M. Nelaton has exhibited to the Anatomical Society of Paris a curious alteration of the commissure of the optic nerves in a person whose vision had not offered any sensible anomaly. The central portion of the commissure was degenerated into a gelatinous matter; on each side the optic nerves ran their course parallel, and communicated only by a nervous loop at the anterior border of the commissure. This interesting and probably unique specimen supports the opinion of M. Cruveilhier, who thinks that if there is any decussation of the optic nerves, it is only at the centre of the commissure; but in this specimen the nervous loop, a species of anastomosis constitutes a new mode of communication not hitherto signalized.—*Archives Gén. February*, 1834.

3. *Situation of the Decussation of the Anterior Cords of the Medulla Oblongata in Relation to the Occipital Foramen.*—The situation of the decussation of the anterior cords of the medulla oblongata is well known, but its position in relation to the occipital foramen was disputed, some conceiving it to be above, others below this opening. The question having arisen in the Anatomical Society of Paris whether compression on a level with the above-mentioned foramen would produce paralysis of the opposite side, a committee consisting of M. M. Berard, Chassaignac and Montault, were appointed to clear up the point, and they have ascertained by various experiments, that this decussation in reality is situated above the occipital foramen. This is a very important fact in relation to the diagnosis of lesions of the spinal marrow.—*Ibid.*

4. *Nerves of the Hand.*—M. Camus has communicated to the Anatomical Society of Paris a very interesting memoir on the distribution and termination of the nerves of the hand. He has shown the existence of gangliform corpuscles, annexed to the terminations of the nerves on the palmar face of the hand. These nerves are the only ones which have these appendages. Some of the members of the society doubt these small bodies being nervous; their existence is not however the less remarkable and interesting.—*Ibid.*

5. *Hermaphrodite.*—This curious freak of nature is thus described in the *Liverpool Medical Journal* for July last. "It is a native of Saxony, the only child of an officer in the Prussian army, and born in wedlock. The voice and features were those of a man, and the height apparently about four feet nine inches. A light, downy beard covered the upper lip; the mammæ were not developed, and the chest was destitute of hair. The interpreter who accompanied the victim of this extraordinary freak of nature, stated that he was thirty-four years old, that at birth he was considered to be a female, and that he always dressed as such, and wore his hair turned up until little more than twelve

months ago, when, in consequence of Professors Blumenbach at Göttingen, and Tiedemann at Heidelburg, having some time previously told him he was a man, he assumed the male attire.

On examining the organs of generation, no penis was to be seen, but the *scrotum* was discovered, divided along the median line, the two halves resembling the external labia of the female, somewhat pendulous, and each containing a testis. The part corresponding to the *mons veneris* was not very well developed, and was moderately supplied with hair. On separating the halves of the scrotum, (or labia externa,) the *glans penis* came into view, resembling a large clitoris, and in the natural situation of the latter organ. It was covered with a prepuce, and had a fissure below, which was imperforate. About an inch lower down, and nearly half an inch to each side of the raphe, were two very small orifices, resembling abrasions of the membrane, and hardly admitting the point of a probe. Still lower was situated the entrance of a pretty capacious canal protected at its lower edge by a fleshy bridle somewhat of a semilunar form, which divided it from the perinæum. This canal was about three inches long, and terminated in a cul-de-sac, excepting that at the further end there was a narrow orifice, through which, when he was desired to make water, the urine flowed. The right scrotal half, (or labium,) contained a reducible hernia, for which he was operated on by Professor Bach, at Dresden, three years ago, when it first appeared. The testes descended, for the first time, along with the hernia. The cicatrix left by the operation is still visible on the left labium, and he wears a double truss.

He has pretty strong sexual desires, and says that he can perform in either character, but prefers *jouer le rôle de la femme.* He has nocturnal emissions, and emissions also on libidinous ideas being excited with regard to *either* sex—the semen flowing from the small orifices below the clitoris or glans penis. There was never any discharge resembling the catamenia.

This individual, as Dr. Sillar explained to the gentlemen in attendance, belongs to the fourth class of Sir Everard Home's division, (*Phil. Trans.* 1799,) viz. "where there exists a real mixture of the organs of both sexes, although not sufficiently complete to constitute the double organ."

PHYSIOLOGY.

6. *Experiments upon the Sounds of the Heart.*—M. Majendie having recently drawn the attention of the Academy of Medicine to the above interesting subject, and propounded certain views of his own, which differ most essentially from those usually received, in ascribing the first sound to the shock or impulsion of the apex of the heart during its diastole against the thoracic parietes, and the second sound to the impulsion of the base of the heart during its systole, Professor Bouillaud, who has for many years distinguished himself by his zeal in the promotion of auscultatory medicine, deemed it proper to have recourse to direct experiments similar to those which Dr. Hope performed on asses.

He laid bare the heart of a strong, full-sized cock, having previously satisfied himself by auscultation that its two sounds might be distinctly heard. He then listened to its action at first while enveloped in the pericardium, and then when divested of it; with the naked ear, and with the stethoscope; and not satisfied with one examination, he made several; and the result of these was, that he could always hear quite distinctly the double sound, or tic-tac of the heart, although there was no point of contact between the organ and any part of the thoracic walls. The friction indeed of the heart against the end of the stethoscope caused a particular sound; but this sound, (simply one of rubbing,) was so very different from the tic-tac of the organ itself, that it is almost quite impossible that they can ever be mistaken for each other. When the heart was

cut out, by being separated from its attachments, it continued to beat for a few moments; but these beats of the empty organ were not accompanied with any perceptible sounds.

The preceding experiment was repeated twice upon rabbits with the same results; viz. the sounds of the heart were most distinctly heard, although neither during its diastole nor during its systole could it come in contact with the thoracic walls.

In conclusion, the Professor states that the results of his direct examination of the sounds of the heart have confirmed him in the opinion that the double bruit or tic-tac, which imitates so closely the clicks of a valve, is, in fact, to be attributed to the play of the valves of the heart.—*Med. Chirurg. Rev. and Journal Hebdomadaire, No.* 9, 1834.

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7. *On the Relations of the Cranium to the Organ of Hearing.*—Professor Mojon, of Geneva, in a memoir read before the Royal Academy of Medicine, on the 25th of March last, has suggested some novel and very interesting speculations on this subject. Hitherto we have been led to view the cranium only as a safe recipient of the cerebral mass and of its appendages; but M. M. ingeniously supposes that it serves at the same time as an harmonic case, or drum, to the auditory organs. Treviranus, Esser, and others had already observed that the tympanum is not essentially necessary to the transmission of sounds, and that the sonorous undulations may be conveyed to the nerve of hearing by the medium of the cranial bones; but no one, before our author, had attracted the attention of physiologists to the curious relations which seem to exist between certain states of the cranial bones and the power of discriminating musical sounds.

The post mortem examination of Dr. Bennati, first suggested to M. M. the following speculations, and they arose from his observing that the bones of the cranium were much thinner than usual, translucent at many points, and soldered together along the line of the sutures.

A similar condition of the cranial bones has subsequently been found by him in the body of another celebrated musician.

This coïncidence of cranial attenuation, and musical endowments, led M. Mojon to consider whether it was possible that the one might be related to the other as cause and effect; and he has been induced by numerous observations to infer that the cranium is by no means quite passive, in the perception of sounds, that differences in the thickness of its walls may have very considerable influence in determining the degree of acuteness of the faculty, and therefore that it may be regarded as a sort of harmonic case which communicates its vibrations to the organs of hearing.

In confirmation of these views our author alludes to the cases of deaf people, who often can perceive very distinctly the sounds of a piano, or organ, by applying one extremity of an iron rod to their forehead, and the other to the instrument; and who may be made to hear what is said to them if only the voice is directed by a speaking trumpet upon some part of the forehead. It is not unfrequently also that a person whose hearing is indistinct, and who chances to wear a wig, can listen with much greater facility when the head is quite bare, than when it is covered.

The curious observations of M. Perier, on patients who had been trepanned, and who were found to hear quite distinctly any sound directed upon the cicatrix, even when both ears were effectually plugged, (vide our last No.) may also be mentioned as illustrative of M. Mojon's speculations.

Comparative anatomy shows that in a number of animals the transmission of sounds to the organ of hearing is assisted by numerous large sinuses, hollowed out in the bones of the cranium. To us it seems by no means improbable that the musical endowments of the feathered tribes may be in some degree at least modified, or influenced by the very attenuated condition of their cranial bones, and by the existence of the elastic lamellæ, which are found between their

supernumerary cavities, as well as the passages or canals which extend into the labyrinth.

The only practical deduction from the preceding views, regards the assistance which may possibly be derived from attention to them, in our diagnosis of deafness, when we wish to discover whether it is owing to a palsied state of the auditory nerves themselves, or merely to some defect or injury of the adjunct members of the auditory apparatus. The every day occurrence of a person squeezing his head with both hands to deaden any very loud noise, may very probably effect the desired purpose, as well by interrupting the cranial vibrations, as by the direct obstruction of the auditory passages.—*Journ. Hebdom. No.* 16, 1834.

8. *On the Question of Venous Absorption.* By Dr. Lucht mans.—Mention is made by Hippocrates* and Galen† of absorption and inhalation, which they believed were effected in the human body through the agency of the arteries and veins. But when Harvey, in the seventeenth century, had fully illustrated the circulation of the blood, from which it was plain that the blood was conveyed by the arteries from the centre to the periphery of the body, the power of the arterial absorption was deservedly rejected.‡ Not long after the discovery of the circulation of the blood, Casparus Asellius, (anno 1622,) found vessels filled with a whitish fluid in the mesentery of a dog, and on the surface of the intestines, which he named lacteals and lacteal veins. Already some idea of these had occurred in Herophilus and Erasistratus, (three hundred years before the birth of Christ;) and even in the year 1556, Bartholomæus Eustachius saw the thoracic duct in a horse, but mistook it for a vein, and called it the white thoracic vein, therefore, many physiologists have assigned the function of absorption to these vessels, discovered by Asellius in the first instance; after that Olaus Rudbeck, (anno 1650,) more fully demonstrated the thoracic duct, both its origin and continuation from the lacteal veins.

When diligent investigation taught that the lacteal vessels, in appearance at least, differed somewhat from the lymphatics, but that this kind of vessels was commonly dispersed throughout the body, physiologists began to doubt the seat of absorption and its apparatus, moreover, to divide into opposite opinions. For some regarded venous absorption to be proved by the testimony of the ancients; others thought that this action was to be attributed only to the lymphatic vessels.

Glisson, Bilsius, and Swammerdam§ are among those who supported venous absorption, who, having tied the mesenteric veins in a live animal, and after some time having opened them, saw the blood contained in them mixed with white striæ, and imagined that this matter was absorbed from the intestines by the veins. But some explain these striæ to consist of coagulable lymph; others of chyle not well mixed with the blood, and more or less dispersed through the whole body; while Hewson and Rudolph determine that the chyle was received from the arteries.

It was the opinion of Haller that veins, with the power of absorption, arose with small open mouths from the cavities of the body, and the cellular tissue, &c. as appears from various passages in his Elements of Physiology.‖ He also derives jaundice from the bile absorbed through the sanguiferous veins.¶ Others, as Rosen, Waller, Meckel, Lobstein, and Sir Astley Cooper, have observed, that mercury injected into the lymphatic vessels, passed into the branches of the vena portæ. Tiedemann and Fohmann have found this anastomosis to exist in the glands.

K. Boerhaave (anno 1730) injected water into the stomach and intestines of a dead dog, and after continual pressure for several hours, writes that it enter-

* Epidem. L. vi. † Comment. in Hippocr. Epidem. L. vi.

‡ P. J. Van Maanen, Diss. de Absorpt. solidorum, p. 15.

§ Vid. Oudeman. Diss. de venarum imprimis meseraicarum fabrica et actione. Gronin. 1792, p. 90.

‖ Tom. i. p. 151; tom. vii. p. 47; ubi dicit; "Facilis etiam et patula via ab iisdem (meseraicis) venis est in intestinum," et Tom. vii. p. 89.

¶ Sommering, de morbis vasorum absorbentium, p. 122.

ed the mesenteric and gastric veins, and propelled the blood.* But many persons, and among others Dr. Van de Sande,† contend, in order to render this argument unavailing, that the water penetrated through the organic pores, or through a rupture. J. F. Meckel filled the vesiculæ seminales with waxy matter, having tied the excretory ducts, and observed this matter penetrate the minute branches of the hypogastric vein. So, also, water injected into the bladder of a male subject passed into the same vein.‡ Neither Cruikshank nor Dr. Oudeman succeeded in this experiment, wherefore they suppose the injected matter passed into the veins through ruptured vessels.§

Moreover, others have alleged the deficiency of lymphatics in some parts, as in the placenta, which, however, appears doubtful; and that blood effused into the cells of the corpora cavernosa penis is taken up by veins.‖ They also adduce the capacity of the venous system, which far exceeds the arterial, and the small dimensions of the thoracic duct, as if it were not sufficient to receive and propel all the moisture which is contained in the lacteal and lymphatic vessels.¶ But even the slower motion of the venous blood corresponds with the greater capacity of the veins.

Here may be mentioned the arguments derived from tying or wounding the thoracic duct, such as Haller** and Flandrin†† bring forward, the lesion of which animals have survived a long time, seeming to prove that other channels exist besides the thoracic duct, by which chyle passes into the blood. Nevertheless, it is evident that these arguments are equally incapable of proving venous absorption, since a double thoracic duct has often been discovered.

Hence it appears that the arguments produced by many of the ancients to demonstrate venous absorption, have not placed this subject beyond all doubt; neither do the arguments taken from the incubation of eggs prove more—in which veins are present before arteries and lymphatic vessels: for a conclusion on so imperfect a state is scarcely tenable with respect to the human body.

Flandrin was the first who at length studied to recal the learning of the ancients on venous absorption; being urged by the observation, that the blood of the mesenteric veins in a horse had a peculiar aromatic odour, and analogous in taste to urine, which the blood in the remaining veins in the body did not possess. He injected into another horse half a pound of assafœtida, dissolved in honey, and smelt it in the venous blood, but not in the chyliferous vessels.‡‡ Magendie having succeeded him, instituted the following experiments. He separated in such a manner a part of the small intestine of a dog, which had been previously well fed, that it adhered to the body only by one artery and vein: one extremity of this portion being carefully tied, he injected the poison upas, and prevented its effusion by a ligature. Death followed as soon as if the poison had been introduced into the sound part of the intestine; appearing to him a proof that this poison was absorbed by the small branches of the remaining vein. Since, however, the slender twigs of nerves probably penetrate the coats of the artery, and follow their course, doubts can be started whether these poisonous effects cannot be explained by an affection of the nerves themselves.

He separated the thigh of a dog from the rest of the body, previously stupefied by opium, so that only the crural artery and vein remained, having removed the cellular coat of these vessels, lest lymphatic vessels might accidentally pass through this. He then injected two grains of the same poison into the foot of this side; the symptoms appeared as soon, and as powerfully, as when the poison is applied to a sound foot.§§

* De Perspir. dicta Hippocr. Leidæ, 1738.
† Diss. de Venis haeteis, illarumque agendi modo. Gronin. 1784, p. 66.
‡ Experimenta et observ. de finibus vasorum, Herot. 1772, p. 49.
§ Oudeman, i. c. p. 28.
‖ Schreger, Fragm. Anat. et Physiol.; fasciculus I. Leipzig, 1793.
¶ Oudeman, i. c. p. 115.
** El. Physiol. tom. vii. p. 68.
†† L'Esprit des Journ. Oct. 1791, p. 375, seq.
‡‡ Magendie, Physiol. tom. ii. p. 263.
§§ Ibid. tom. i. p. 25, seq.

The experiments were repeated with the same result by Lawrence and Coates. It is, indeed, supposed that the poison was placed in contact with the blood itself, and passed into the circulation by a way made in this direction; but Emmert, in experiments performed upon frogs, introduced the poison between the skin and muscles, and the same result ensued. It would, however, be difficult to show clearly that the application was made without injury to the smaller vessels.

Fodera filled a portion of the small intestine of a live animal with a solution of prussiate of potass: having tied the intestine on both sides, he saw, after he had placed the intestine in a solution of sulphate of iron, the lymphatic vessels and mesenteric veins tinged with a bluish colour.* My most esteemed instructor performed this experiment, after the interval of a year, and could only detect absorption of the prussiate of potass in the lymphatic vessels, but not in the veins. The prussiate of potass contained in the portion of the intestine was not changed in colour after half an hour, so that the sulphate of iron had not penetrated the walls of the intestine.†

According to Tiedemann and Gmelin, colouring, odoriferous, metallic, and saline matters, are, in the first place, absorbed by the mesenteric veins; the chyle especially, by the lacteal vessels. White striæ were also observed in the blood of the vena porta by these celebrated men, which they explain from the anastomosis of the lacteal vessels with the sanguiferous veins. Lawrence and Coates detected a solution of prussiate of potass both in the chyle and in the blood, although more abundantly in the blood;‡ the contrary was observed by the Society of Philadelphia.§

At length, Mayer injected a solution of prussiate of potass into the trachea of a rabbit; he found this sooner in the blood than in the chyle; and in the left ventricle of the heart before the right: the same thing occurred, although the thoracic duct had been tied; which, indeed, seems to prove that this solution was absorbed by veins from the bronchial extremities, but not by lymphatic vessels. The same person observed in a man who died from pulmonary affection, the veins of the small intestines, at least the minuter branches running on the surface of the small intestine, filled with a gray matter, similar to chyle, which were visible to the naked eye even at the margin of the valves of Kerkring. The greater trunks contained blood: the lymphatic vessels were empty, which difference he attributed to the venous system living longer than the lymphatic, or from the right side of the heart dying later than the left.

There is certainly a great difference between the manner in which functions are performed, during health, in the living body, and that in which they are exercised, and after vivisections have been instituted, by which, in addition to the other injuries, the nervous system, at least in many, is violently disturbed. Besides, the substances introduced or applied, in order to illustrate this or that physiological question, in the greatest degree differ from the nourishing matter naturally swallowed. Although, therefore, it would be very hazardous to apply rashly to the human body all opinions which depend upon experiments, nevertheless, we think it can be deduced from the experiments by Mayer and Tiedemann, that their opinion is not devoid of all appearance of truth—that the power of absorption exists both in the lymphatic vessels, the mesenteric and pulmonary veins.

Another question is added, which has lately been agitated by physiologists—whether another passage of the lymphatic vessels into the veins exists, besides the thoracic duct alone; either the insertion of several into the left subclavian vein, or occasionally into the right; whether, therefore, the power of absorption is peculiar to veins—whether they convey what the lymphatic vessels pour into the veins by anastomosis.

* Magendie, Jour. de Phys. tom. iii. p. 80.
† J. Koker, Diss. de subtiliori membranarum serosarum fabrica, p. 61.
‡ Lund. l. c. p. 65. § Ibid. p. 64.

Already anatomists have observed, while injecting the lymphatic glands, the veins sometimes filled with quicksilver.* It happened to J. F. Meckel, who saw mercury had penetrated the vena cava, after he had injected a lumbar gland,† which Hewson, Cruikshank, Mascagni, &c. attributed to ruptured vessels. Falconer‡ and J. F. Meckel, jun.,§ have observed the same thing. G. Vrolsk relates that he perceived such a communication in the phoca vitulina. Beclard affirms he often saw the passage of mercury both in the lymphatic vessels and the veins of glands, which, however, he did not attribute to the rupture of vessels.‖ V. Fohmann, who scientifically investigated this branch of minute anatomy, found the same in man; moreover, in horses, cows, cats, &c. From many of the glands in dogs the mercury passed only into veins. The lymphatic vessels of the small intestine in the phoca marina, appear to terminate only in the mesenteric veins; the same obtained in the bronchial gland.

He also observed in fish, as in the *torpedo marmorata*, and the *esox lucius*, an abundant anastomosis between the lymphatic vessels and veins in the neighbourhood of the heart, and on the surface of the organs subservient to digestion.

Many observations worthy to be read, on this subject, which have produced a similar result, may be found in Lauth.¶ Even the greater trunks of the lymphatic vessels, according to Lippi, are inserted in man into the renal vein, cava, and vena portæ. Outside the glands he has even represented, in plates, a horse and goose, having this complicated anastomosis; but Fohmann has proved this author to have mistaken sanguiferous vessels proceeding from glands, for lymphatic.

Hence, indeed, it seems to be proved that a communication exists between the lymphatic vessels and veins. Granting this to be true, many arguments alleged in favour of venous absorption would be invalidated; for then, to adduce an example, the chyle, already in the lymphatic glands, might be mixed with the blood in greater or less quantity, by the assistance of the veins.

It remains for us to notice, that even in our time physiologists might be cited, who strenuously deny both absorption of veins, and their anastomosis with lymphatic vessels, among whom Th. Soemmering and Rudolphi are particularly to be mentioned; for their injections do not show any passage of mercury from lymphatics into veins, neither in the dog, dolphin, birds, amphibious animals, nor even in fish; but if mercury should have passed into the veins, they suppose it attributable to ruptured vessels. The lymphatics of the small intestine in the phoca marina extend to a congeries of glands, which is commonly called pancreas Asellii, the lymphatic vessels proceeding from which converge into a duct of marked diameter, to be inserted into the thoracic duct itself;—an observation opposed to Fohmann. Rudolphi especially made the following objections to venous absorption:—1. The difference of structure between the lymphatics and veins. 2. Fluids injected into the cavities of dead animals are taken up by the lymphatics, but not by veins:—which argument does not affect the experiments instituted in living animals by Tiedemann and Mayer. 3. All odoriferous matters penetrate organs, but are not found in lymphatic vessels, because their nature is changed in the glands. Tiedemann found not only odoriferous, but also colouring matters, in the blood of the portal veins. 4. He deduces that some substances are found in the blood, but not in the chyle, both from peculiar causes moderating the absorption of these within the vessels, and from the chemical analysis of an organic substance not as yet sufficiently perfect.** But if chemical analysis could detect these substances in the blood, I do not see why they could not be discovered in chyle, which is as yet imperfect blood, and more simple. 5. According to his opinion, matter analogous to chyle ex-

* Haller, o. l, tom. l, p. 177.
† Nov. Exper. et Observ. p. 7.
‡ Experimental Inquiries: London, 1777; p. 46, *nota*.
§ Lindner, Spec. Med. de Lymphaticorum Systemate, p. 78.
‖ Anatomie Generale, 476.
¶ Rudolphi, l. c. page 256. ** Ibid.

isting in the blood, was not absorbed at first by the mesenteric veins, but was changed into genuine blood during sanguification.*

My valued instructor performed the following experiment before many pupils, in order to establish whether the passage of quicksilver from the lymphatic vessels and glands into the veins, was to be ascribed to ruptured vessels:—He carefully sought for the lymphatic vessels of the left fore-paw in a well-fed dog, which had been quickly killed by prussic acid, and injected with mercury a little vessel near the carpus; and pursuing the course of the lymphatic vessels to the axilla, there we saw a network of lymphatic vessels, conspicuous on account of the complicated anastomosis, with distinctly turgid valves, filled with mercury. All these lymphatic vessels entered the axillary glands. One larger gland, situated near the insertion of the cephalic vein into the axillary vein, was entirely filled with the quicksilver, without any rupture of the vessels or effusion of quicksilver, which could not be so easily detected in the other glands or lymphatic vessels. We were unable to discover, by the most accurate examination, any other lymphatic vessels going out from the other side of the glands; but a vein filled with mercury went out, terminating in the subcutaneous vein of the neck, which, like the jugular vein, contained mercury. A lymphatic vessel going out from another smaller gland, partially filled with mercury, appeared to extend to a greater gland. He injected a little mercury into a lymphatic vessel of the other foot, and separated it from the body, with the gland and veins which proceeded from the other side of the gland, and terminated in greater veins. We could not detect any lymphatic vessel going out. The parts being arranged on a table, he introduced a tube into a lymphatic vessel, towards the gland, when, after moderate pressure, we saw by the aid of the column of mercury, all the lymphatic vessels of the gland in nodules—not only filled, but the mercury soon began to flow from the veins. Upon increasing the pressure, this vein was turgid with mercury, when a ligature was passed round it. We could not detect in this experiment any rupture of vessels, after the most accurate examination. At length, having opened the thoracic cavity, we saw the thoracic duct turgid with transparent chyle, without a globule of mercury; which proves that mercury, in the former experiment, did not pass from the thoracic duct into the veins.

Should any one wish to establish that the mercury passed from the lymphatic vessels of the gland by ruptured vessels, after such slight pressure, it would be necessary, after the increased pressure, that the mercury should be effused from this rupture not only into the vein, but also into the cellular tissue surrounding the gland, so as to be extravasated; which was by no means the case.

Afterwards, an opportunity offering itself through the kindness of the veterinary professor, Numan, my instructor endeavoured to repeat these experiments in a colt. He filled with mercury the lymphatic vessels in the groin, at the os humeri, and in the mesentery; but after the mercury had entered the glands, an effusion of mercury always occurred from ruptured vessels. After employing less pressure, the glands, indeed, were filled with mercury; but the mercury neither passed from sound, nor from injured and ruptured glands, into other vessels, so that neither the lymphatic vessel going out, nor the adjacent vein, was filled. Perhaps the parts were more or less putrefying, from the increased temperature of the atmosphere, although no putrid odour was evident in the body. If the passage of the mercury from the glands into the veins was the result of rupture of the vessels, I do not see why we no where observed mercury passing from these glands into veins, but into the cellular tissue between the lymphatic vessels of the gland, which was expanded into large vesicles.—*Med. Gaz. June*, 1834.

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9. *Structure and Functions of the Skin.*—The *Gazette Médicale de Paris*, for the 8th of February last, contains an analysis of a highly interesting memoir

* Rudolphi, i. c. page 245.

presented to the Royal Academy of Sciences, by MM. Breschet and Roussel de Vauzeme, on the structure and functions of the skin. In this memoir the authors endeavour to establish—

1st. That there exists in the skin an apparatus for the secretion of sweat, consisting of a glandular parenchyma which secretes this liquid, and of canals which pour it out on the surface of the body. These excretory canals are disposed in a spiral form, and open very obliquely under the scales of the epidermis.

2d. That the organs of absorption differ in some respect from the lymphatic vessels or veins, with which they nevertheless appear to communicate. These organs consist of transparent canals, of great fragility, branching or forming little arches of communication one with another, but in which we can discover no orifice or terminal mouth, which could serve for the purpose of absorption. It is this which leads us to believe that this function cannot take place by a kind of suction, but rather by imbibition, or by a mechanism, analogous to that of endosmose.

3d. That the medium in which these canals are situated, is a substance produced by a true secretion, which being strongly hygrometric, forms a body, by the medium of which the phenomenon, which we still call absorption, is effected; this absorption is only more promptly and more easily produced on mucous surfaces, because on these surfaces, the mucosity, which is analogous in more than one respect to an epidermic body, is less dense and more miscible with the liquids which are to be absorbed.

4th. That the papillary bodies are truly nervous, and the nervous filaments which enter in the composition of each papilla, do not terminate, (by bundles,) so that each fibril is free and isolated, but the nervous ramuscules appear to have terminal arches.

5th. That the papillæ are enveloped in a particular membrane, and in a layer formed by the epidermic corneus substance.

6th. That in these papillæ, sanguineous vessels of a much smaller size than the nervous filaments penetrate.

7th. That the different layers of epidermic corneous substances constitute a separate apparatus, composed of an organ of secretion and of a substance, at first placed in fibres perpendicular to the derma, but which afterwards becomes horizontal. These fibres or small stems result from the superposition of small scales; and the epidermis, properly so called, is but a part of these stems situated at the greatest distance from the derma.

8th. That in this epidermic substance, formed of scaly stems, are found absorbing canals and nervous papillæ.

9th. Finally, independently of the apparatus for the secretion of the corneus epidermic substance, there exists in the skin, towards the external face of the derma, a small apparatus for the secretion of colouring matter.—*Gaz. Méd. Feb. 8th*, 1834.

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10. *Passage of Gases through Liquids.*—M. Dutrochet has communicated to the Academy of Sciences a memoir entitled "On the Endosmose of Gases through Water." In a former memoir, in which the author attempted to explain the respiration of aquatic insects, M. Dutrochet observed that a mutual change took place between the gases enclosed in a cavity immersed in water and the external air, the final result of which, was the transformation of the gas contained in the cavity into atmospheric air.

M. Dutrochet saw in this passage of gases in opposite directions through this liquid, a phenomenon analogous to that of the passage of liquids through a solid and permeable diaphragm—a phenomenon similar to that of endosmose. He had observed that the gases in this reciprocal exchange passed in different quantities, so that according to the nature of the mixture first placed in the bell-glass, he could have at the end of the experiment an increase or diminution of volume; he also saw that the results varied as the experiment was made

in still or running water. The object of his new work is the continuation of the researches on this subject. The first apparatus consisted of two glass tubes united at the bottom by a third, bent like a horse-shoe. This last tube was filled with water, and the two other tubes contained the same up to a certain height. The top of the two latter was occupied on one side by oxygen gas, and on the other by carbonic gas. After some time the gas passed through the water which filled the bottom of the apparatus, so that much carbonic acid was found on the side of the oxygen, and a little oxygen on the side of the carbonic acid. Besides, there was a loss of a portion of the gases, which was dissolved in the water, and by far the most considerable part of the loss was of the carbonic acid. This experiment, says M. Dutrochet, had not the degree of precision necessary; however it served to show me that when two gases separated by a liquid mix, notwithstanding this obstacle, they have commenced to be dissolved in the liquid, and it is only when the latter is saturated, that the dry mixture commences. This experiment, and others in which the two gases were oxygen and azote, show that it is always the most soluble gas in water which passes in the largest quantity through this liquid towards the less soluble gas.

By prolonging sufficiently the experiment with the same gases in an apparatus a little different from the one we have described, M. Dutrochet convinced himself that the change continued through the liquid until the proportions of the two mixed gases were the same in both receptacles, but there was a result he had not anticipated, which was that in the two tubes the mixture was in exact proportions to constitute atmospheric air. There had been no loss of azote but only a portion of oxygen, which was in excess, and remained dissolved in the water. The two gases in the passage of inverse directions through the water, are, according to M. Dutrochet, in mixture, as are all substances that water dissolves simultaneously.

From this consideration, and others drawn from the phenomena of the mixture of two liquids of equal viscidity, separated by a partition which exercises on them a capillary action, the author is led to establish analogy between the capillary action of solids and the dissolving action of liquids.

The memoir is terminated by observations relative to the influence the state of repose or agitation of the liquids, through which the mixture is made, exercises on the results.

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11. *Influence of Gravity, and of a Depending Position on the Circulation of the Blood, in Health and in Disease.*—To appreciate properly the importance of these influences, it is proper that we attend for a few moments to the condition of the circulation in different parts of the body in its most frequent attitudes and postures; viz. the vertical or upright, and the horizontal. As the former is the most frequently repeated and longest continued, it may therefore be reasonably believed to exert a more influential operation on the current of the blood than the other. Let us consider the effect of the upright position of the body, (and this, we need scarcely say, includes the sitting, as well as the standing posture,) and we shall at once perceive that the arterial circulation in the inferior extremities is thereby facilitated, while the venous circulation is proportionally impeded. It is not therefore surprising that as the body advances in years, the operation of gravity which is acting constantly, except during sleep, against the venous current, should on many occasions induce engorgement of the veins of the leg, giving rise to varices, and to obstinate ulcers. The circumstance of these being almost peculiar to the lower limbs, can be explained only on the principle we have stated. The condition of the circulation through the head is the very reverse; the arterial current has to ascend against the gravity of the blood, whereas the venous current downwards is favoured by it. Whenever the upright posture is changed for another, say the horizontal, the circulation is very perceptibly affected; the veins of the face and neck become swollen and livid, the carotids and temporal arteries pulsate with greater force, and head-ache and confusion of thought are often induced. These phenomena are still more rapidly and

more strikingly developed if the head is lower than the rest of the body. From this example we perceive that the veins of the head and neck are nearly passive tubes; their contractile power is very small, no doubt from its being seldom called into play; and hence they become easily distended whenever the current of their blood is not favoured by gravity. The contractile power of the veins of the upper and lower extremities is much greater; but in the case of the latter it is often much weakened by their almost continued state of distention to which they are exposed.

Now the circulation through the other parts of the body also is affected, and that too very materially, by the influence of the gravity of the blood, but in different degrees according to their situations and positions. As a general truth we may assert, that whenever the venous circulation is favoured by the gravity of the blood under ordinary circumstances, *there* will congestions be apt to take place, or to be much increased when they have already taken place, by any change of the accustomed position; and the reason of this is, that such veins have but little contractile power to aid in propelling their contents. To return to the subject of the cephalic circulation, is it not a fact of daily observation, that scarcely any one is able to continue long in a strictly horizontal position? the head must be somewhat raised above the level of the body, else unpleasant feelings come on, which not only prevent sleep, but may induce dangerous symptoms. It is not improbable that the less free return of the venous blood from the head when we lie down, may have something to do in the phenomena of sleep. And is it not, in part at least, this cause which keeps up the desire for sleep beyond the requisite period of repose; so that the longer we remain in bed, the longer still we wish to remain? It is not unfrequent to observe in elderly patients who have been, from whatever cause, long confined to bed, a set of nervous and cerebral symptoms supervene, and these may resist every means of relief which may be devised. The perceptive and intellectual faculties become dull and inactive; a state of torpor and apathy, of greater or less degree in different cases, comes on; the patient is unwilling to be troubled with anything, as the answering of questions, and so forth; and when he does return an answer, perhaps it is confused and rambling. These are alarming symptoms, and if they continue and become aggravated we can have no hope of saving our patient.

On dissection of such cases we usually discover some degree of encephalic congestion, and perhaps a trifling effusion within the ventricles. We deem it not improbable that the true source and origin of most of the mischief are to be sought for in the altered state of the cephalic circulation in consequence of the more frequent and longer continued decubitus or position in the horizontal attitude. As it is with the head, so it is with other parts of the body, when they are kept for a length of time in a depending posture. In the chest the stasis of the blood is always more considerable in those parts of the respiratory organs which are lowest; and it has often been remarked, that pneumonia, especially when it attacks those who have been long bed-ridden, very generally affects the base of the lungs. Perhaps some curious and interesting results might be obtained by endeavouring to ascertain the comparative frequency of pneumonia on the left and on the right side, of engorgements of the liver, and of the spleen, in relation to the ordinary position of the patients during their sleep. It is quite possible that the blood may acquire a tendency to accumulation in particular organs on that side which the person usually assumes while asleep.

In our July number, of last year, there is an interesting memoir of M. Piorry, on what he designated "pneumonia hypostatica," or pneumonia arising from a continued state of congestion of certain parts of the lungs, kept up by long confinement in bed. Almost all the cases occurred in old infirm patients, admitted into the La Salpetriere as objects of charity. The mere confinement to bed appeared often to bring on cough and other pectoral symptoms, and these were found to be quite irremediable, if the patients were kept all day in the horizontal position.

Auscultation readily discovered the seat of the pulmonary lesion; the dullness on percussion, and the absence of the respiratory murmur, with the consecutive râles, heard on each side of the spine, showed that it was the posterior part of the lungs which were chiefly affected; and the post-mortem examination confirmed in every case the accuracy of the diagnosis.—[Ed.]

The injurious effects of a depending position are well illustrated in the case of the female mamma, when not properly supported, especially during lactation; the veins become much enlarged and distended, and not unfrequently severe darting pains are felt through the organ, giving rise to apprehensions of the commencement of serious disease. Then, too, the very common malady of hæmorrhoids is another striking example of the influence of gravity on the circulation of the blood; and the phenomena of many uterine affections also afford testimony to its operation: thus numerous cases of inflammation of the womb are induced by the patients too soon leaving bed, and getting up; the change from the horizontal to the vertical position favours the more easy flow of blood along the uterine arteries, while it retards the returning current in the veins: hence, therefore, we may readily explain the occurrence of inflammation or hæmorrhage under such circumstances. Every obstetrical physician knows that it is of paramount importance to enjoin a reclining posture in all affections of the female internal organs of generation.

Again; it is the agency of mere gravity which induces a varicose state of the spermatic veins in men, constituting the diseases of varicocele and cirsocele, and these diseases are invariably aggravated by all causes which are capable of increasing the force of the gravity of the blood, or of relaxing the coats of the blood-vessels, such as exercise, long standing, heat, &c. The use of a well-made and well-applied suspensory affords by far the most effectual relief. But the phenomena which result from the influence of gravity are still more apparent and striking in the extremities of the body. If the hand has been long hanging by the side, especially when it is warm at the same time, the veins become full and distended, every minute ramification can be traced, and the whole volume of the soft parts is greatly increased, so that even a feeling of unpleasant tension may be induced: by merely raising the hand and arm, and keeping it for some time in that position, all these appearances vanish, and the member resumes its wonted condition. This affords one of the best examples of the influence of mere gravity on sanguineous accumulations; and we can readily believe that the upper extremities would very often exhibit the effects of such accumulations, were it not for the free and frequent movements of them in all directions:—In the case of the lower limbs, the movements are much more limited, and their position is almost always unfavourable, except during sleep, to the return of the venous blood; whether we are walking, standing, or sitting, the blood has to rise from the feet upwards against the force of its gravity. Hence it is that the varicose distentions of the veins of the foot, leg, and thigh are so frequent, and especially whenever there is any superadded cause, which may impede the easy reflux of the circulating fluid—the pressure of the gravid uterus, of an enlarged ovary, &c. is well known to be a common cause of such a malady. When the larger veins of the extremity have been varicose for some time, and especially if the patient neglects the proper means of relief, the capillary veins become gradually distended and engorged—the surrounding cellular substance becomes inflamed, hardened, and ecchymosed, in consequence of blood oozing out occasionally from the over-distended vessels, and being infiltrated into the cellular parenchyma. It is under these circumstances that the skin not unfrequently gives way, and ulcers, most painful and difficult to heal, become formed. Having thus briefly glanced at some of the most illustrative examples of the influence of gravity, as a cause of inconvenience and disease, we shall now direct the attention of our readers, for a few moments, to certain maladies in which the influence of this agent is conspicuously observed.

In severe cephalic neuralgias, the horizontal position is often found to aug-

ment the sufferings of the patient; and the only attitude in which he can find any rest, is with his head well elevated. We do not mean to imply that these cases are of an inflammatory nature, yet it is very evident that they are much aggravated by any sanguineous congestion in the parts affected. In phrenitis, otitis, erysipelas of the face, the higher the head is kept raised, the more relief the patient experiences; and when any local inflammation, as of one ear, exists, we uniformly observe that the symptoms are mitigated by lying on the opposite side. Ophthalmia has often been translated from one eye to the other, by the person continuing to lie on the sound side when the inflammation was abating in the other, and this alternation of the seat of the disease may be repeated several times, if the physician's attention be not directed to the real cause. The spreading of erysipelas on the trunk appears to be not unfrequently influenced by the position of the patient; the tendency to spread is generally in a direction to the most depending parts—those on which the patient is resting; and rarely upwards, or to a part more elevated than the spot from which it has started. We have already alluded to the frequency of pneumonic attacks of the lower and back parts of the lungs, in patients who have been long bed-ridden, from whatever cause; and it is unnecessary to do more than merely again to point to diseases of the rectum, uterus, and male organs of generation, in proof of the influence of position. In the treatment of ulcers of the leg, we are firmly of opinion that repose of the limb, in the horizontal posture, is by far the most important of all therapeutic means: poultices, lotions, and ointments will often all fail, unless this necessary adjunct be attended to at the same time; and even when the patient is not strictly confined, do we not invariably employ what may be called compensating remedies, viz. strips of adhesive plaster, or rollers from the toes up the whole length of the limb? and the effect of these is well known to be, the taking off the pressure of the superincumbent column of blood from the veins of the foot and leg.

M. Gerdy, about a twelvemonth ago, instituted a number of experiments at the Hôpital St. Louis, on the different methods of treating ulcers; different sets of patients were submitted to the different methods, and each method was employed by itself, in order that the results of each might be justly appreciated. Many of the details have been published in the article "Attitude," in the Nouveau Dictionnaire de Médécine. We shall mention a few of them.

When the limb on which an ulcer existed was kept upon an ascending inclined plane, it was found that the sore became pale, the suppuration was diminished in quantity, and a crust soon began to be formed upon the surface, and under this the healing went on more or less rapidly. If strips of adhesive plaster were used, at the same time that the elevated inclined position was retained, the cure was still more rapid: it was by combining the elevation with the use of adhesive bandages, and the entire repose of the limb, that cicatrization of the ulcer was most speedily effected. Several cases of severe contusion were treated on the same plan, with very decided success—the contused limbs being retained in an elevated inclined position during the whole period of the treatment; the decrease of the pain, tension, and tumefaction was sometimes truly remarkable.

M. Gerdy is of opinion, that many white swellings of the joints may be very materially benefited by an application of the principles which have directed his treatment of ulcers. He recommends that the affected limb be kept perfectly quiet, and on an inclined plane, so that the foot is considerably more elevated than the thigh. He is not yet provided with the reports of any cases to prove the correctness of his ideas; but in one case of elephantiasis of the leg, treated by elevation of the limb, and compression at the same time, the result was most satisfactory—the subsidence of the enlargement was very striking.—*Med. Chir. Rev. & Archiv. Générales, Dec.* 1833.

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12. *Of the Chemical Properties of the Secretions in Health and Disease, and of the existence of Electrical Currents determined in Organized Bodies by the Acidity and Alkalinity of the Membranes.* By M. Donne.—1. From the whole surface of

the skin is secreted an acid humour. The sweat, however, instead of being, as is generally said, very acid under the arm-pits, and round the genital organs, is, on the contrary, as alkaline in these parts as at the toes.

2. The digestive canal from the mouth to the anus secretes an alkaline mucus, except in the stomach, where the gastric juice is very acid. Thus the saliva and the mucus of the œsophagus, as far as the cardia, are alkaline in a healthy state, and become acid only in consequence of disease. From the pylorus to the end of the intestinal canal, the mucus furnished by the mucous membrane itself is alkaline.

3. Serous and synovial membranes all secrete an alkaline liquor in a normal state, which in certain diseases sometimes becomes acid.

4. The external acid and the internal alkaline membranes of the human body represent the two poles of a pile, the electrical effects of which are appreciable by the galvanometer. Thus, in placing one of the conductors of the instrument in contact with the mucous membrane of the mouth, and the other in contact with the skin, the magnetic needle deviates fifteen, twenty, and even thirty degrees, according to the sensibility of the galvanometer, and its direction indicates that the mucous or alkaline membrane takes negative electricity; and the cutaneous membrane positive electricity.

Independently of these two great surfaces presenting opposite chemical states, there exist other organs, the one class of which may be called acid, and the other alkaline, and which produce the same result; between the stomach, for instance, and the liver of all animals, extremely powerful electrical currents are found.

5. M. Donné has observed electrical phenomena of the same kind in vegetables, of which he gives examples, but electrical currents in vegetables are not produced by the acid or alkaline states of the parts as in animals, because the juice of fruits, at least such as M. Donné examined, is throughout more or less acid. Accordingly, however, to the beautiful experiments of M. Biot, the juices which arrive by the pedicle are modified on some part of the fruit, and it is perhaps to this difference of the chemical composition of the juices of the two extremities that the electrical phenomena are to be attributed.

6. The acid humours of the economy may become alkaline, and *vice versa*.

7. Acidity is usually the result of inflammation, properly speaking, which may be produced by sympathy in an organ situated at a distance from the inflamed point. Thus the saliva becomes very acid in inflammation of the stomach.

8. The acid which is developed in inflammation appears to be most frequently the hydrochloric. The presence of this acid produces coagulation of the albuminous part of the lymph, or of the serosity which abounds in inflamed parts. The false membranes in the serous cavities, the albuginous spots of the eye, the coagulable lymph of wounds, the thickenings of certain organs, and many other morbid productions resulting from inflammation, in which there is found by analysis only albumen, more or less coagulated, are owing to this.

Pus itself is produced by the action of the acid on albuminous lymph. It is a kind of union of the acid with the albumen. If free acid be not found in the liquids effused on the surface of inflamed organs, it is owing to the humours of the body being very alkaline, and containing sufficient potass and soda to neutralize the acid. In the memoir, however, of which this paper is a summary, M. Donné has cited many cases in which *pus* and even the serum effused into the abdomen in consequence of *peritonitis* were found acid. An analogous case was reported to M. Donné by M. Dumas, and another is mentioned by Berzelius in his treatise on chemistry.

9. The changes in the chemical nature of the secretions reäct on the different systems of the economy, forming an interesting order of lesions and symptoms in connexion with the etiology, the diagnosis, and even the treatment of diseases. These changes according to M. Donné, produce modifications of the electrical currents which exist between the different organs of the economy.—*Ed. Med. & Surg. Journ.* and *Journ. Hebdom. Feb.* 1834.

13. *Action of Sugar upon Human Blood.*—Professor Hegewisch, of Keil, states that a solution of sugar produces the same alteration in the colour of black blood as the saline solutions, namely, changing it to a bright arterial colour.—*Gazette Médicale de Paris, April 12th,* 1834.

PATHOLOGY.

14. *Foreign Body found in the Heart of a Boy.*—The following very curious instance of this is recorded by T. Davis, Esq. of Upton upon Severn, in the second volume of the *Transactions of the Provincial Medical and Surgical Association.*

"On Saturday evening, January the 19th, 1833, I was summoned to attend Wm. Mills, aged ten, living at Boughton, two miles from Upton. When I arrived, his parents informed me that their son had shot himself, with a gun made out of the handle of a telescope toasting-fork. To form the breach of the gun, he had driven a plug of wood about three inches in length into the handle of the fork. The touch-hole of the gun was made after the charge of powder had been deposited in the hollow part of the handle. The consequence was, that when the gunpowder exploded, it forced the artificial breach, or piece of stick, from the barrel part of the gun with such violence that it entered the thorax of the boy, on the right side, between the third and fourth ribs, and disappeared. Immediately after the accident, the boy walked home, a distance of about forty yards.

"By the time I saw him, he had lost a considerable quantity of blood, and appeared very faint; when I turned him on his right side, a stream of venous blood issued from the orifice through which the stick entered the thorax. Several hours elapsed before any degree of reaction took place. He complained of no pain.

"For the first ten days or a fortnight after the accident, he appeared to be recovering, and once during that time walked into his garden and back, a distance of about eighty yards; and whilst there he amused himself with his flowers, and even stirred the mould. He always said he was well, and was often cheerful, and even merry. There was no peculiar expression of countenance, excepting that his eyes were rather too bright.

"After the first fortnight he visibly emaciated, and had frequent rigors, which were always followed by faintness. The pulse was very quick. There was no cough nor spitting of blood. The secretions were healthy. He had no pain throughout his illness.

"He died on the 25th of February, five weeks and two days after the occurrence of the accident.

"*Dissection.*—On opening the thorax, a small cicatrix was visible between the cartilages of the third and fouth ribs, on the right side, about half an inch from the sternum.

"The lungs appeared healthy, with the exception of a small tubercle at the right, and at its root, near to the pulmonary artery, a small blue mark in the cellular tissue, corresponding in size with the cicatrix on the parietes of the chest.

"Half an ounce of serum was contained in the pericardium.

"When an incision was made into the heart, so as to expose the right auricle and ventricle, we were astonished to find, lodged in that ventricle, the stick which the boy had used as the breach of the gun, the one end of it pressing against the extreme part of the ventricle, near the apex of the heart, and forcing itself between the *columnæ carneæ* and the internal surface of the heart; the other end resting upon the auriculo-ventricular valve, and tearing part of its delicate structure, and being itself encrusted with a thick coagulum as large as a walnut.

"We searched in vain for any wound, either in the heart itself or in the pericardium, by which the stick could have found its way into the ventricle."

15. *Cases illustrating the Terminations of Ovaritis Puerperalis.*—The epithet puerperal, applied to this affection, is not to be considered as indicating that it occurs only after delivery. In the 4th vol. of the "Clinique des Hôpitaux," is a report of the dissection of a woman, (who never had been pregnant,) in whom the right ovary was found inflamed and much enlarged, from a purulent deposit, of a most fetid character. In another case, occurring under similar circumstances, the pus made its escape by the rectum, and the patient recovered.

In many of its features, ovaritis bears a strong resemblance to the abscess of the iliac fossa, the history of which has been so ably illustrated by Dupuytren, Dance, and others. At present, we shall confine our observations to the mere furnishing of cases, descriptive of the different modes in which ovaritis may terminate.

1. *By Resolution.* A woman, thirty-three years of age, was admitted into the Hôtel-Dieu on the fifteenth day after delivery. The labour had been painful, and the child extracted by turning. The symptoms were œdema of the abdominal parietes and of the inferior extremities, suppression of the lochia, a swelling in the left iliac region, painful on touch; strangury; whitish, creamy deposite in the urine, and sense of weight in the vagina. By active local bleeding, and appropriate constitutional treatment, this woman speedily recovered.

2. *By Suppuration.* This is a very frequent termination. The pus makes its escape either, *a*, by the rectum, as in the following case.

A young woman presented a general emaciation—slight effusion into the cavity of the abdomen, enlargement of the liver, a swelling as large as a hen's egg, in the left iliac region, painful on pressure—amenorrhœa—urine containing a whitish substance, which appeared like pus; well-formed pus mixed with the stools; body and neck of the uterus healthy to the touch, by which it was discovered that the tumour in the groin was connected with the womb and bladder. The patient was generally feverish, and more so towards evening. Numerous leeches were applied to the swelling, and hot fomentations afterwards. The progress of the case is not known, as she left the hospital unexpectedly. It ought, however, to be stated, that she had been delivered of a seven-month child three years before her admission, after a severe, but rapid labour. Three months after this date, she began to experience pains in the hypogastrium and groins, and these had continued with more or less severity ever since. In such cases of purulent diarrhœa, the pus may make its way either into the cœcum, the arches of the colon, or into the rectum. In the following case, it seems to have escaped into the left arch of the colon.

A woman was seized, on the second day after delivery, with all the symptoms of peritonitis; on recovering from which, she had an attack of phlegmasia dolens. While under treatment for this, a painful tumour made its appearance in the left groin. This attack of ovaritis was no sooner over, than she was again seized with peritonitis, in consequence of imprudently walking on a cold stone floor. On the 22d of March, (seven weeks after her admission into the hospital,) the left limb was still œdematous; and on this day was first observed purulent matter mixed with the alvine evacuations. The great relief which the patient almost instantaneously experienced in the inguinal swelling, on the occurrence of this purulent discharge, could leave no doubt but that it proceeded from the ovary, which had very probably become adherent to the sigmoid flexure of the colon. During a space of two months the discharge ceased, and returned several times; and even when the patient left the hospital, on the 23d of June following, there still remained a degree of engorgement in the left groin, and slight œdema of the limb.

b. The pus may find an exit by the bladder or vagina. MM. Husson and Dance found that this had taken place in a young girl who died of the disease.

c. It may follow the course of the round ligament, and escape at the inguinal or crural apertures. Dupuytren has seen numerous cases of such a termination. Under these circumstances, the tumour may be mistaken for an aneurism,

as it frequently pulsates, from being in close proximity to the iliac artery. In opening abscesses at this point it is necessary to use considerable caution, as instances have been known where the artery has been inadvertently wounded.

d. It may pass into the abdominal cavity, and either become encysted, or induce fatal peritonitis: and, *e*, lastly, it may be discharged at some point of the hypogastric or iliac regions, (besides the inguinal aperture,) in consequence of the ovary becoming adherent to the abdominal parietes, and the matter gradually working its way out. This termination is illustrated by the following case.

A woman, twenty-four years of age, was delivered of her sixth child on the 17th Nov. The labour was rather painful and difficult. Imprudent exposure to cold was quickly succeeded by an attack of fever, by suppression of the lochia, and a tumefaction of the right groin. When received into the hospital, the tumour was of the size of an egg, and the limb was œdematous.

In spite of repeated leechings, &c. the suppurative process commenced, and, by the end of January, several fistulous openings through the abdominal walls had taken place; and from these a copious discharge of pus flowed out. The patient gradually regained her health, and left the hospital, quite cured, a few weeks afterwards.

In the 4th vol. of the Bibliothêque Médicale is narrated in the case of a lady, in whom two iliac abscesses, supervening upon an attack of entero-peritonitis, opened, the one into the sigmoid flexure of the colon, the other into the cœcum —and this last also projected outwardly. An incision was unfortunately made into it, and a stercoral fistula was the consequence.

3. *By Ramollissement.* The ovary becomes tumefied, infiltrated with a seropurulent fluid, and either friable and easily lacerated, or extremely soft and yielding in texture. Dr. Montault saw an example of this degeneration in a young girl, who died of puerperal peritonitis. The labour had been quite natural and easy, but she had suffered much from mental anxiety, and had been exposed to cold, when she was brought to the hospital after delivery.

4. *By Enlargement and Induration.* A young woman was seized with metroperitonitis, five days after her discharge from the Maternité, where she had been safely delivered. She died on the sixth day of the disease, having, on the day or two preceding her dissolution, exhibited all the symptoms of ataxic fever, (from the absorption of purulent matter into the system.) On dissection, a small quantity of pus was found infiltrated into the superior and lateral portions of the uterus. The right ovary was more enlarged than the left, hardened in texture, and of a yellowish colour; firm pressure forced out only a few drops of pus. This state of induration will often continue for a long period without affecting the general health; although it must be confessed that, not unfrequently, the patient is annoyed with colicky pains, proceeding from the site of the ovary, with dysmenorrhœa and other troublesome symptoms.

When these are exceedingly obstinate, and progressively become more distressing, we may suspect that the enlarged and hardened viscus is degenerating into scirrhous, lardaceous, osseous, melanotic, or hydatidic condition.—*Med. Chir. Rev. & Journ. Hebdom.*

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16. *Fatal Case of Effusion of Blood into the Pericardium.* By Dr. Carson, of Liverpool.—Mr. W., a gentleman about fifty-two years of age, of a tall and robust form, clear complexion, subject occasionally to dyspeptic affections; though of very regular and temperate habits; of an active disposition, though his occupation was sedentary and confining; had been for twelve months affected with considerable anxiety of mind, in consequence of the doubtful issue of some building speculations. Towards the end of Lent, which he had rigidly observed according to the injunctions of the Catholic Church, on the 11th of March, a day exempted from the prohibitions respecting diet, he had eaten freely of beef-steaks with onion sauce. He was at that meal sparing as usual in the use of wine. On the evening of the following day, he was engaged in a fatiguing and rather anxious way with the business of a club, of which he was treasurer.

On his return from the club, about eleven o'clock at night, in company with two of his friends, when he had nearly reached his own house, he was seized with faintness and debility to such a degree, that without the assistance of the friends who accompanied him he would not have been able to have kept his feet. Soon after his arrival at his house, he was visited by Mr. Bromilow, his medical attendant. He described himself as faint and exhausted; complained of an obtuse, heavy pain at the precordia, and was affected with flatulent eructations. His respiration was free, his pulse 70, and regular, though weak. He had no affection of the head, nor pain any where, excepting as described in the chest. His bowels had been opened that day. Mr. Bromilow ordered an antispasmodic draught; and left him with directions to take something warm, and go to bed. He took the draught, and a weak glass of brandy and water. At three o'clock he sent for Mr. B. again, and, as the pain in the chest was not abated, he expressed a wish to be bled, which Mr. B. agreed to, more with the hope of satisfying his mind than from any great necessity for that measure being indicated by the symptoms. He lost a pint of blood. An opiate was then administered. At this visit Mr. B. examined the chest more minutely. He applied his ear to the different regions of the naked chest, but perceiving no unsual sound or vibrations, concluded that the heart, lungs, and large vessels were in a sound state. At five o'clock. A. M. I visited him. He felt cold, perspired gently, and chiefly complained of a pain in the chest, which he described as wearisome and oppressive. It was not increased by taking a full inspiration. He had vomited a little in the course of the night, and had discharged some of the onion sauce he had taken the day preceding the attack. He was much troubled with flatulency, and belched frequently, but was not relieved by it so far as regarded the pain in the chest. His pulse was regular; the heat of the body natural; and respiration good. He had had no sleep.

From the information given by Mr. Bromilow, connected with my own observation, I considered that nothing could be indicated by the symptoms beyond an affection of the stomach, which is known to exhibit itself in such anomalous forms. He took four grains of calomel, and two of opium. We visited him again at half after eleven o'clock. He had had little sleep. The symptoms remained the same. He was ordered an aperient mixture, and we proposed to visit him again at seven o'clock. At this visit, I replied to the anxious inquiries of the family—that we did not see any cause for alarm; that the complaint seemed to arise from indigestion; and that I had no doubt he would recover. At three o'clock in the afternoon he sent for Mr. Bromilow, as the pain still continued unabated, and wished to know if he might have any thing to rub the part with. The bowels had not been opened, and he had had little or no sleep. A short time before seven o'clock, the hour at which we had proposed to visit him, and at which I was prevented from attendance by an urgent call to a distant part of the country, Mr. W. was seized with what the family conceived to be a fit; and a short time after the arrival of Mr. Bromilow, expired. In consequence of my unavoidable absence, other physicians were called in, and two arrived, but not until after the death of the patient. I applied for permission to open the body, which was granted. The body was examined twenty-four hours after death, by Mr. Bromilow, in my presence, and in that of my son, Dr. Carson, Jr. The following were the appearances on dissection. Upon opening the chest, the lungs on both side were perfectly sound and collapsed. But, notwithstanding the collapse, the chest was filled more than it usually is when the lungs are sound. This indicated the existence of some foreign substance, or morbid enlargement of some of the organs. The pericardium was found accordingly to be immensely distended by some fluid, which, when this bag was opened, was found to be blood, partly liquid and partly coagulated: the quantity was not less than three pints. It was purely blood, without the admixture of any fluid indicating inflammatory action. The external surface of the heart, and internal surface of the pericardium were examined carefully, but no ruptured vessels, from which the blood might have flowed were discovera-

ble on either of these surfaces. The heart itself was perfectly sound, the valves were in good condition, and no disease existed in any of the large vessels. The lungs were free from adhesions, and were every where sound. The other viscera were in a sound state. A great deal of care and time were expended in trying to discover the source from which the blood had flowed into the pericardium, but in vain: a slight ecchymosis was observed about the root of the pulmonary artery. Dr. Baillie, in his *Morbid Anatomy*, says, "Cases have occurred, though very rarely, in which a large quantity of blood has been accumulated in the cavity of the pericardium, but where no rupture could be discovered after the most diligent search, either in the heart itself, or in any of its vessels. This appears very wonderful, and not at all what any person would expect *à priori*. Two conjectures have occurred to me, to explain this phenomenon: 1st, that the blood-vessels on the surface of the heart have lost their compactness of tissue, so that the blood may have escaped by transudation. The other is, that the blood may have been poured out by the extremities of the small vessels opening on the surface of that part chiefly of the pericardium forming the immediate cover of the heart, from their orifices having been to a very uncommon degree relaxed."

There is a case related by Dr. Alston, in the 6th volume of the Edinburgh Medical Essays, in which the disease of the chest was of long standing. Three pints of blood, which was partly coagulated and partly mixed with lymph, were found in the pericardium. No ruptured vessel was discovered either on the outer surface of the heart, or the inner surface of the pericardium. Upon pressing the heart, a bloody serum oozed out of a great many orifices on its surface, and principally near its base. No disease was discovered in the interior of the heart or large vessels. Dr. Baillie refers to two cases of extravasation of blood into the cavity of the pericardium, in which the source of the hæmorrhage could not, after the most careful examination, be discovered. In both these, functional disease of the heart had been observed for some time previous to the death of the patient. Vide Medical Observer, vol. 10, p. 330. Memoirs of Medical Society, vol. 1, p. 238.

Various opinions have been advanced respecting the sources from which, in the above cases, the blood was derived. One of the suppositions made by Dr. Baillie appears to me to approach the nearest to the truth, which is that the blood had oozed out of the small vessels on the internal surface of the pericardium immediately covering the heart. It is probable, I think, that the oozing, particularly in the case now narrated, arose from the condition of the blood, and the relaxed state of the fibres. It would appear that the disease was general, and that the shivering, faintness, and depression of spirits were not the effects of the flow of blood into the pericardium, but that this last was, like the affections stated, the effect or symptom of the general disease—that in fact there existed a morbid state of the whole system, similar to that which takes place in purpura, in some kinds of epistaxis, hæmatemesis, and bleeding from the bowels in typhus fever. The pain in the chest was in the first place occasioned by the admission of blood into a cavity not accustomed to the stimulus of that fluid. There is no reason to suppose that the action of the heart would be mechanically affected until the quantity of the blood was pretty considerable; for the blood would readily follow the dilatation of the pericardium occasioned by the elasticity of the lungs when the chambers of the heart had finished their contractions. No sound was perceived on carefully examining the chest. Indeed no sound could be excited, as no fluid was poured from one vessel into another. For as the auricles expand as the ventricles contract, the change of place in the constituents of the fluid in the pericardium would be inconsiderable, and made with quietness.

There does not appear to be any symptom in this case that would have warranted the medical attendants in giving an unfavourable prognosis. As a matter of prudence, a less favourable one might have been made, but the same

prudence would not permit the expression of a favourable prognosis in any case whatever.—*Liverpool Medical Journal, No. I.*

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17. *Extensive Mesenteric Disease—Great Heat of the Whole Body the Chief Symptom.*—Giovanni L. æt. 36, a countryman, was admitted into the hospital at Padua in February, 1830. His only complaint was a burning heat over every part of his body; and this was so distressing, that, although the weather was exceedingly cold, he lay all night without any coverings. Two bleedings from the arm, and cooling purgatives, relieved him so much that he was able to return home. In the month of May he returned, labouring under the same distress, and was again made well by a similar treatment. At this time, however, some symptoms of a hypochondriacal affection were first observed.

A fortnight after his second dismissal he came back, in consequence of a mild attack of continued fever, accompanied with that feeling of burning heat which had so much distressed him before. A variety of remedies were tried, but with few good effects, the fever continuing in spite of them, and the patient gradually losing strength and flesh. The pulse being firm and hard, he was bled from the arm, and twelve leeches were applied round the anus. Being considerably relieved by this treatment, he was induced to leave the hospital. He was not, however, long absent, and on his return his condition was decidedly worse. The pyrexial symptoms were much aggravated, but he no longer complained of the burning heat; his emaciation was much greater.

Repeated examinations of all the great cavities of the body were made by more than one experienced physician, for the purpose of ascertaining, if possible, the seat or exciting cause of the prolonged duration of fever; but no very satisfactory conclusions could be arrived at by any one. It was suspected, however, that the "fons et origo mali" was probably seated in the lower part of the abdomen.

A diarrhœa came on, and, as it could not be checked, the patient speedily sunk under its effects. He died about the middle of August.

Autopsy.—When the abdominal cavity was laid open, and the small intestines, which were found contracted and quite empty, had been pushed up, an extraordinary mass of indurated disorganized glands presented itself to view. It was fully as large as two fists put together, and, when divided, exhibited a yellow colour, and a structure not unlike to that of genuine scirrhus. So general was the morbid change, that not one healthy gland was discovered in the whole course of the mesentery. It was very naturally a subject of great surprise how such an enormous enlargement as existed at one part could have escaped detection during life, seeing that the abdomen had been repeatedly examined with great care. The only way in which we can explain this, is by supposing that the intestines were always interposed between the mass and the parietes of the abdomen.

Remarks.—The preceding case is very interesting in several points of view; and of these not the least important is that of illustrating what extensive disorganization may be going on in certain viscera, and yet the symptoms, especially the local ones, may be very obscure and unsteady. The leading feature in our patient was the extreme heat and sense of burning which he felt in every part of his body.

It may, therefore, be worthy of the attention of physicians whether this symptom is not more frequently attendant upon mesenteric disease than has been hitherto noticed. We have certainly observed it, more than once, in some of the abdominal affections of children.—*Med. Chir. Rev. and Annali Univers. di Med.*

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18. *Case of Paraplegia—Suppression of the Urinary and Anal Evacuations during Eleven Years.*—When Dr. Montesanto first saw this patient in April, 1831, he had been paraplectic for upwards of eleven years, and was suffering at the time from the sequelæ of a severe attack of pneumonia; so that it was not

expected that he could long survive. The thoracic symptoms, however, gradually disappeared, and he was then in the same paralytic condition in which he had remained since the year 1820. His appetite was vigorous; but the food seemed to meet with some obstruction, probably at the pylorus, for it was regularly rejected by vomiting in about three hours after it had been swallowed. It is stated that at a former part of his illness a stercoraceous vomiting, which had previously recurred at intervals of from forty to fifty days, had ceased altogether for more than two years. No secretion of urine nor evacuation per anum had taken place since the commencement of the disease, in 1820; neither during all these years had there been any trace of activity in the generative organs. Strange that with such a defect and morbid state of the alimentary and urinary organs, the general health of the patient should have continued moderately good. Towards the close of the year 1831 he had a threatening of the return of his thoracic complaints; but they were speedily removed by appropriate treatment. Occasionally, too, when he eat any food which disagreed with his stomach, or took it at improper times, he was seized with alarming symptoms of cramp and ineffectual efforts at vomiting. One of these attacks, which had been brought on by a repast of fried sardinias, nearly proved fatal in the spring of 1832; for fifteen days his life was despaired of; fortunately then a spontaneous vomiting occurred by which he rejected four large masses of solid stercoraceous substance, which seemed to have been impacted in the intestines. Nature having thus relieved herself of an immense accumulation of fæcal matter, which had been gradually collecting for a space of nearly three years, the health of the patient was speedily restored to its former condition. It was necessary every now and then to take away a small quantity of blood by venesection, to counteract in some degree the stimulating and plethoric effects of the ardent spirits which the patient was in the habit of drinking.

In the summer of the following year Dr. Montesanto makes the report, "that his patient's health for the last twelvemonth has been on the whole exceedingly good; and that there has been no return of the stercoraceous vomiting during that period."

The paralytic state of the lower half of the body remained unchanged; all sensibility quite gone, but the limbs not wasted, and though motionless at will, were supple and flexible.

The authentic particulars now related have attracted the attention of many of the most distinguished physiologists and surgeons in Europe; the case altogether is one of the most wonderful on record—the mode of existence in this man being allied to the normal condition of life in some of the lower classes of animals.—*Ibid, August*, 1833.

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19. *Case of Apparent Death* [*Life?*] *which lasted Three Weeks.*—A young man who had recently been cured of a tertain fever, was admitted into the hospital at Paderborn, under the care of Dr. Schmid, for symptoms indicating tubercular phthisis. He gradually became exceedingly emaciated, and at length died.

After all traces of breathing had ceased, a few irregular beats of the pulse were felt, and the eyes opened of themselves. Some small eschars artificially produced, exhibited signs of suppuration on the second, third, and fourth days. On the fifth, one hand was found to have been turned round; and on the sixth and ninth days a partial perspiration bedewed the skin. After this period several pemphigus-like bullæ made their appearance. The limbs remained quite pliant; the lips preserved their red colour until the eighteenth day, and the expression of the features even at this date was that rather of a living than of a dead person. At the end of the third week there was no offensive smell nor any other sign of putrefaction.—*Med. Chir. Rev. and Journ. der Pract. Heilkunde.*

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20. *Cyst in the Brain.*—M. Vernois has presented to the Anatomical Society of Paris, a cyst of the size of a large nut, which he discovered in the posterior

part of the right hemisphere of a patient who had died of laryngeal phthisis, and who had never exhibited any symptom of disease of the brain.—*Archives Gén. March*, 1834.

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21. *Acute Rheumatism terminating in Suppuration.*—The termination of rheumatism by suppuration is certainly not common, though MM. Guersent and Dance state that they have met with a considerable number of cases of it, the former in children, and the second in women in child-bed; M. Louis has also met with one example of it, an account of which is published in the *Gazette Médicale* for 1831. A still more striking case is related by Dr. Dégardin in the journal just named for April 12th, 1834.

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22. *On Cancer of the Stomach.* By William Stokes, M. D.—[Extracted from his Lectures on the Theory and Practice of Medicine, delivered at the Medical School, Park Street.] Pathologists are divided as to what is the cause of cancer of the stomach, but the best informed are of opinion that, in those cases of gastric disorganization, which are called cancer or scirrhus, all that can be demonstrated by the knife is referable to the results of chronic inflammation. This is a different proposition from saying, that chronic inflammation *alone* will produce cancer. As yet we know little of cancer; dissection of cancerous organs gives but scanty information; but this seems certain, that, in particular conditions of the economy, an inflammation of the stomach will end in cancerous disease. Here is an excellent preparation of the stomach of a person who died of cancer of that organ. For several years before his death he had a jaundiced look, an emaciated appearance, frequent vomiting, and severe pain towards the termination of the digestive process, a circumstance which denotes disease of the pylorus. He had also hæmatamesis. You see the inner surface in the vicinity of the pylorus presents ulcerations of the mucous membrane and thickening of the sub-mucous cellular tissue. The pylorus itself does not appear to be at all contracted, but the parts around it are in a state of extraordinary disease. Look at the preparation again, and say what could bitters, or acids, or alkalies, or tonics have effected in a case of such extensive disease. Here is a stomach, in a state of long-continued chronic inflammation, and exhibiting lesions, which some would designate as cancer of that organ. Now, though I do not know the treatment which this patient underwent, I would venture to say, that he took plenty of the usual anti-dyspeptic medicines. Yet in a vast number of cases, when enormous quantities of these remedies are taken daily, the stomach is in as bad a state as that preparation exhibits, and I feel the more strongly convinced of this, because I am aware that many persons die after having gone through the whole routine of anti-dyspeptic practice, and, when they are opened after death, incurable disease of the stomach is discovered. Here is an example of vast cancerous disease of the stomach; here is a very interesting specimen of chronic gastritis, chiefly representing a most remarkable and circumscribed ulcer at the termination of the stomach. Here you see is the ulcer, with raised, thickened, and introverted edges. Now, in all probability this ulceration was exceedingly chronic, for you perceive nature has been at work with it, and has made some attempts at preparation. It is in such a case as this that patients generally refer their pain to a particular part of the stomach: digestion goes on without any pain until the food reaches a certain point, when acute pain is felt, and this continues until it is relieved by vomiting. The occurrence of this symptom, after an attack of acute gastritis, would lead you to suspect the formation of one or more ulcers, and the persistence of this localized pain should induce you to persevere in employing every means in your power calculated to remove the disease. The preparation which I now exhibit is interesting, as it shows the effect of corrosive poison on the stomach. The patient, to whom this stomach belonged, died in consequence of swallowing a quantity of sulphuric acid; here you see the consequences, the mucous membrane is black and disorganized, exhibiting this ragged appearance. In some cases of malignant fever

we have found the stomach presenting somewhat similar appearances; and the same state of the stomach is described by some writers as occurring in cases of intertropical fever. Here is a preparation, which you should inspect, chronic gastritis with a large ulcerated patch in the centre of the stomach. Here is another example of extensive cancerous disease.

A very few words will suffice for the state of the science on the subject of cancer of the stomach. It is very hard, nay, even almost impossible, to draw a line of distinction between the symptoms of cancer of the stomach and chronic gastritis, and I believe it is admitted on all hands that the same causes give rise to both. Long-continued irritation will, in one case, produce cancer of the stomach, in another, chronic gastritis. Again, it is admitted by many, that what is called cancerous ulceration of the stomach has no appreciable difference from ulceration in various other organs; and hence some persons have gone so far as to say that there is no such thing as cancer of the stomach, (separately considered;) and that all the cases adduced of it are nothing more than so many forms of chronic gastritis. In the present state of medicine, we are not, indeed, possessed of any data which would enable us to come to a final determination on this question. It is certainly impossible to determine this point; but if there be any thing peculiar in cancerous matter, similar to tubercular or melanotic matter, there is no reason why, under the influence of inflammation, it should not be developed in the stomach, as well as in any other part of the body. But whatever views we entertain on this subject, we must confess that, in the majority of cases, there is a chronic gastritis, and that the principles of treatment which would alleviate the patient's sufferings and prolong life, *are those which are calculated to prevent the occurrence of gastric inflammation.* The more you approximate the treatment of cancer to that of chronic gastritis, the greater comfort will you afford your patient, and the more will you prolong his existence.

The most celebrated case on record of this affection is that of the Emperor Napoleon. He died with extensive ulceration of the stomach, which, of course, was called "*cancerous,*" and there was also distinct traces of disease of the liver, the mucous coat of the intestines, and the lungs. His disease was believed by himself to have originated in the stomach, and to this opinion he adhered, notwithstanding the results of some solemn consultations, at one of which his affection was declared to be an "*obstruction of the liver,*" with a "*scorbutic diserasy.*" At another it was pronounced to be a "*chronic hepatitis,*" and a course of mercury recommended! When we reflect on this, and read in the account by Gaubert, (which you will see in the *Examen des Doctrines Médicales,*) the regimen which was used, and the list of stimulating medicaments employed, you will not wonder at the words of this great man, when he was pressed to take more drugs, to swallow the universal nostrum, mercury, to which he had the greatest aversion. "Your disgusting preparations are good for nothing. Medicine is a collection of blind prescriptions, which destroy the poor, sometimes succeed with the rich, but whose whole results are more injurious than useful to humanity." But he got mercury, notwithstanding, mercury for his "digestive organs;" to "excite the liver;" to "remove its obstruction," and mercury to create bile, and purgatives to remove it; and tonics, and antacids, and stimulants; and he died in torture, and his body was opened, and the stomach was found "*cancerous.*"

I should not omit mentioning to you, that in those cases of chronic gastritis, which run on to an incurable stage, the best treatment consists in a careful regulation of diet, in keeping the bowels open by enemata, or the very mildest laxatives, and in avoiding every thing capable of producing excitement. You will also derive advantage from the employment of gentle counter-irritation, and from the internal use of narcotics, which in such cases appear to have a more beneficial effect than any other class of remedies. With the exception of these, I do not know any other kind of medicine you can safely employ; and I believe that, in the majority of cases, you will find that the patients have taken already a great deal too much medicine. Anxious for relief, and urged on by

the hope of obtaining some remedy capable of alleviating their sufferings, they have recourse to every grade of quacks, are persuaded to swallow every kind of drug, and are subjected to every form of harassing and mischievous treatment. The diet which you prescribe for such patients should be sparing but nutritive; give the stomach as little to do as will be consistent with the support of life and strength; and you may take it as a general rule in the treatment of all chronic affections of the digestive tube, whether cancer of the stomach, scirrhus of the pylorus, or structure of the intestines, that there are two great principles of general application, preserving a gently open state of the bowels, and allaying inflammatory excitement.—*Lond. Med. and Surg. Journ. Feb. 8th*, 1834.

23. *On Duodenitis.* By William Stokes, M. D.—I shall not dwell on the subject of duodenitis, as I shall revert to its consideration when speaking of jaundice, because inflammation of the duodenum is a common cause of jaundice, perhaps the most common, if we take the whole of its causes together. You are not to suppose that I wish to inculcate the doctrine that jaundice is a necessary complication in duodenitis, but it has been proved, that there is an extraordinary frequent coïncidence between both, and that jaundice very often seems independent of any mechanical cause, such as an obstruction of the biliary ducts. So far from this that in some cases, particularly those which are produced by, or accompany, a duodenitis, we have intense universal jaundice at the same time that the bile is flowing freely into the digestive tube.

The researches of the immortal Bichat gave the first hint which directed the attention of practitioners to the circumstance, that, in many cases where jaundice had existed during life, there was no obstruction or disease in the liver or biliary ducts, but that in such cases there was always more or less inflammation in that part of the digestive tube, into which the bile was immediately discharged, and this led ultimately to the discovery of the connexion which exists between inflammation of the duodenum and jaundice. In treating of the sympathies which depend upon continuity of surface, Bichat refers to the connexion which exists between the surfaces of mucous membranes and the ducts which open on them, and endeavours to show, that the natural mode of excitement in all secreting glands is a stimulus applied to the surface on which their ducts open. As examples of this, he instances the effect which food and other substances, applied to the mucous membrane of the mouth, have in stimulating the salivary glands; the effect which stimulants, applied to the conjunctiva or nose, have on the lachrymal gland, and many others. Hence Broussais concludes that, when the mucous surface of the duodenum is thrown into a state of excitement, we may have a consequent affection of the liver, for the duodenum bears the same relation to the liver as the mouth does to the parotid glands. That this is frequently the case, I think, is very probable. It is now established, that the cause of the yellowness in what has been called yellow fever, is disease of the upper part of the digestive tube, in which the duodenum is always involved; and that the fever itself, (the typhus icterodes of the nosologists,) has been found to be greatly connected with inflammation of the stomach and duodenum. During the epidemic of 1827, we had in the Meath Hospital a great many cases, which bore a striking resemblance to the yellow fever of warm countries, and particularly in this, that they were accompanied by intense jaundice, and inflammation of the upper part of the digestive tube. You will see in the works of Rush and Lawrence, two of the best American writers on yellow fever, that, of the numerous bodies they examined, there were scarcely any in which the jaundice was found in connexion with liver disease, but that in all cases there was intense inflammation of the digestive surface.—*Ibid.*

24. *On Inflammation of the Jejunum.* By William Stokes, M. D.—We know very little of the symptoms which characterize inflammation of the jejunum; and it is a curious pathological fact, that this portion of the intestinal tube is of all others the least liable to inflammation. In point of fact, we have no means

of ascertaining what are the prominent symptoms of inflammation of the jejunum, because, in almost every case in which jejunitis has been discovered, there has been also extensive disease of the rest of the small intestine. We have cases of simple gastritis; there have been also cases of distinct disease of the duodenum. We may have disease in the lower third of the ilium, unaccompanied by an affection of any other part of the tube. The same thing may occur in the case of the cœcum, colon, or rectum, but it seldom or never occurs so far as the jejunum is concerned.—*Ibid.*

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25. *On Inflammation of the Ileum.* By William Stokes, M. D.—Inflammation of the ileum is a most important affection, for two reasons; first, in consequence of its extraordinary frequency, and, in the next place, of its insidious latency, the disease generally requiring a considerable degree of tact and experience on the part of the practitioner to make out its diagnosis with certainty. In fever, it is the most frequent of all the forms of intestinal inflammation; and hence Broussais, finding inflammation of the ileum of such constant occurrence in fever, concluded that fever was only symptomatic of intestinal inflammation. Further researches have shown that he was mistaken, and that the inflammation of the digestive tube is, in many cases, secondary; but it is still a circumstance of almost constant occurrence, and in many cases of fever is the cause of death. Now, the portions of the intestinal tube most commonly affected in fever are, the stomach and lower part of the ileum, and the frequent occurrence of this in fever is very remarkable. There are few cases of typhus without it. In some cases of typhus you will, on examination after death, be astonished to find extensive disease of the intestinal canal, which, during life, had not attracted any particular notice, and this you will most commonly find in the lower part of the ileum. So common is it, that Louis says that ileitis is the grand anatomical feature of typhus fever; that is, had he been obliged to pitch on the lesion of some particular organ as giving a character to typhus, he would say that it was ileitis. There are other diseases, too, in which inflammation of the ileum forms the principal complication. In the diseases of children, which go by the names of worm fever, remittent fever, and bilious fever, I believe that ileitis is generally the first affection, and that the fevers are only symptomatic of it. It constantly occurs at some period or other of tabes mesenterica; and I believe, that in many cases it precedes the affection of the mesenteric glands. It is exceedingly common in phthisis. In every case of phthisis, where diarrhœa has lasted for some time, the probability is, that there is ulceration in the cœcum, colon, and lower part of the ileum.

Now, what is the nature of this ileitis? This preparation, *(handing one for inspection,)* which I beg of you to hand round, will furnish a very good illustration of the disease. Here is a portion of the intestine exhibiting various distinct ulcerations of different sizes, occupying the situation of the mucous glands. I do not mean to say, that the character of the disease consists in this distinct ulceration; it is an essential disease of the mucous membrane, and of its glands, which exist in great numbers on the surface of the lower third of the ileum, and are called *solitary* and *aggregate*. These glands frequently take on the inflammatory condition, become softened, run into ulceration, and produce extraordinary sympathetic irritation of the whole system. There has been lately a great deal of discussion with respect to the question—Whether disease begins in the glands or in the mucous membrane, and whether we can separate disease of the glands from disease of the mucous membrane. This has been carried to a great extent; and a change has been attempted to be made in the name of the disease, it being entitled *dothin-enteritis* by those who say that the inflammation commences in the glands. But this I think is a mere refinement, and is carrying the thing too far. It is next to impossible for the glands to be affected without involving the mucous membrane, or for the mucous membrane to be affected without an extension of the disease to the glands. We sometimes, however, see the mucous membrane diseased without the glands being

apparently engaged; but I think the glands are never engaged without the co-existence of disease in the mucous membrane. In this preparation you see the mucous membrane is just giving way; and here is an actual slough, where the mucous and submucous tunics have yielded to the inflammation. In the lower portion of the ileum we meet with an infinite variety in the size and number of the ulcerations: in some they are very close and numerous, in others there are only two or three detached ones; in some, the whole circle of the intestine is destroyed, and the ulcer is nearly as broad as the palm of the hand. It is interesting to consider, with respect to the pathology of the respiratory and digestive systems, how it comes, that ulceration of the mucous membrane is so much more common in the digestive apparatus than in the respiratory. For one ulceration of the bronchial mucous membrane from acute disease, you will have one hundred of the gastro-intestinal. For this peculiarity we cannot clearly account; but there seems to be more development in the digestive than in the respiratory system, and that this over-development produces a tendency to disease. This, perhaps, is an approximation to an explanation of the facts; and to this may be added, that the mucous membrane of the intestines is exposed to the influence of a much greater variety of agents. It is difficult to give an accurate idea of the symptoms of ileitis, as we can only arrive at a knowledge of it by negative evidence, or, as the French term it, "*par voie d'exclusion.*"

In a case of gastritis and of inflammation in the upper part of the digestive tube, the most prominent symptoms are thirst and vomiting. In this affection, too, there is thirst, but it is by no means so urgent as in the former cases, and there is generally no vomiting. In a case of acute gastritis there is always a desire for cold drinks. In this disease there is also a desire for fluids, but the patient prefers them warm. Here you perceive two symptoms, connected with the predominance of disease in the upper part of the digestive tube, are absent—vomiting and the desire for cold drinks.

Now, you are aware, that, in a case of inflammation of the colon and rectum, the most prominent symptoms are diarrhœa, tenesmus, and the passing of a quantity of morbid secretions. These symptoms, in a case of ileitis, are either wanting, or they are so slight as to excite but very little notice. If then, in a case of intestinal disease, we abstract the characteristic symptoms of disease in the upper and lower part of the digestive tube from the phenomena of the existing disease; if we find that it presents symptoms which do not properly belong to either the stomach, duodenum, colon, or rectum; we conclude that it must depend on a lesion of the remaining part of the canal, and we are, in this way, led to the diagnosis of ileitis. Let us enumerate the symptoms of an ileitis. In the first place, thirst, without a preference for cold drinks; in the next, absence of vomiting; again, in the early period of the disease, there is generally a tympanitic state of the belly, and the patient seldom complains of pain even in fatal cases. This is a point of extreme importance. There is, however, most commonly a degree of tenderness over the ileum, which you will be able to detect by an accurate examination, and this tenderness presents a remarkable difference from the tenderness of gastritis, both in degree and situation. It is very seldom so exquisite as in a case of gastritis, the patient can bear a considerable degree of pressure, and the tenderness, in place of being towards the epigastrium, is situated between the umbilicus and the crest of the ileum on the right side; here pressure excites pain. The tongue in this affection is generally of a dirty-white, pointed, and red along the edges and tip; the pulse is quick and small, and the face is contracted. As to the nature of the discharges from the bowels they are exceedingly various; there has been as yet no diagnosis founded on their appearance, and in some fatal cases they have been observed to retain an almost perfectly healthy appearance throughout. What would the gentlemen, who draw their diagnosis from chamber-pots, say in such cases? I have seen perfectly natural stools in cases, which immediately after have terminated fatally, and where, on examination after death, there was a vast extent of ulceration in the ileum. In addition to the symptoms just recited, the patient most

commonly has *fever*, and this presents itself under various forms, frequently assuming the type of a simple continued fever: hence, in a great many cases, *the patient is supposed to labour under merely simple continued fever, and the existence of extensive inflammation of the ileum is entirely overlooked.* In other instances, there is more or less prostration, which increases with the progress of the disease, and the fever frequently receives the appellation of typhoid. Under these circumstances, the patient often gets bark and wine, every means is taken to support his strength and remove the typhoid condition of the system, the inflammation of the intestine is exasperated by neglect and mal-treatment, the patient dies, and, on dissection, the ileum presents an enormous sheet of ulcerations.

In cases of this kind, where the diagnosis depends as much on negative as on positive circumstances, it is of importance to have a direct sign, by which we may be able to ascertain with some degree of certainty the existence of a suspected enteric inflammation, and I think I have discovered one, which I believe has not been as yet noticed; this is increased pulsation of the abdominal vessels. In many cases of acute inflammation of the brain, the increased pulsation of the carotids has been frequently remarked, and every one sees that, under such circumstances, there is an undue excitement of these vessels, or, in other words, that there is a want of proportion between the action of the carotids and that of the arteries of the extremities. If your finger be attacked by paronychia the same phenomenon is observed, the artery leading to the inflamed finger beats much stronger than the artery of the corresponding one on the opposite side. From these circumstances I was led to conclude that, in cases of acute inflammation of the digestive tube, there would be increased pulsation of the abdominal aorta; and, on following up the investigation, by examining several persons who had distinct and well-marked intestinal inflammation, I found that my conclusions were well-grounded. In such cases, I found not only a remarkable throbbing of the abdominal aorta, but I also discovered that this throbbing was prolonged to the femoral arteries, and that, on the other hand, there was little or no corresponding excitement in the arteries of the upper extremities.

In inflammation of the ileum the patient generally lies on his back, and avoids motion as much as he possibly can, his skin is dry and harsh; he is feverish; he has thirst, but little desire for cold drinks; he scarcely ever vomits; his alvine dejections are sometimes thin and purgative, sometimes figured and natural. But there is one circumstance which is of considerable importance in pointing out the amount of disease, even in cases where patients have considerable diarrhœa, and this is, that the diarrhœa is not sufficient to account for the extraordinary prostration. There must be some cause for the great reduction of vital power besides the mere diarrhœa, and I must state to you that there are few diseases which bring on such rapid prostration as inflammation of this portion of the digestive tube. In the advanced stage of this disease, the patients have cold skin, subsultus tendinum, petechiæ, involuntary discharge of urine and fæces, low delirium, coma, gangrenous ulcerations of the back, sinking of the powers of life, effusions into the head and chest, in fact all the symptoms which characterize the last stage of typhus. Generally speaking, the disease is more or less prolonged, and the patients die of exhaustion, but in some cases the approach of death is more sudden and formidable. Some of the ulcers pass deeply into the substance of the intestine, perforate all its coats in succession, the contents of the intestine escape into the peritoneum, and the patient is carried off by a rapid peritonitis.—*Ibid.*

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26. *Inflammation of the Ileum in Children.* By William Stokes, M. D.—Inflammation of the ileum is very frequently met with in children, and it is most important that you should be aware of the extreme frequency, as well as the symptoms of this disease, in those little creatures. There is one fact in pathology which seems not to be generally acted on, that there is a class of dis-

eases which are intra-uterine, and with which a child may be born. There are a great many cases of this kind on record, but still I must confess, there is a great scope for investigation, and that our knowledge on this subject is imperfect. I believe that any one who has the opportunity of dissecting a great number of still-born children, or of those who die immediately after birth, would, by examining the state of the different cavities, and publishing the results of his examinations, earn for himself very great reputation. It is a well-known fact that children may be born with hydrocephalus, with tubercles in the lungs, with acute inflammation of the stomach; nay more, children have been known to be born with chronic gastritis, and with old ulcerations in the ileum and colon. When children happen to be born with gastro-enteric disease, they are puny and weak; the fact of this occurrence is generally overlooked, the case is considered to be one of general debility, and hence most of those children are lost in consequence of their medical attendants being ignorant of the real nature of the disease. It is a very curious fact, too, that where enteric disease occurs in very young children, it is frequently met with without any accompanying fever, and this is a point of great importance. Here is a fact not generally known. A new-born infant has vomiting, swelled belly, contracted features, but at the same time he has cold skin and feeble pulse; he has no distinct symptoms of fever, and a puny and feeble state of constitution appears to be the prominent symptom. He dies, and, on opening the body, you find distinct traces of enteric inflammation. The younger the child is, the less will be the chance of fever occurring as a sign of enteric inflammation. It seldom happens that this takes place after dentition, but before it is very common.

Now, what are the circumstances which would enable us to recognise this disease in children who have passed the period of first dentition? If you find the child vomiting, thirsty, with swelled belly, hot skin, a tendency to diarrhœa, and an erythematous redness about the anus, you may be sure that there is disease of the digestive system; if the child is restless, and you perceive that the symptoms of irritation of the head are coming on, you will be more certain, and in such cases pathology will inform you that the disease is chiefly in the ileum. In the advanced stage the diarrhœa is lessened, but the belly continues tympanitic, the child exhibits traces of long suffering, and the circumstance of the teeth not being developed gives it the appearance of premature old age, which cannot be mistaken by an experienced eye, and is a sign of long-continued and extensive intestinal disease. In some cases, the child gets a common attack of diarrhœa; this is neglected, but after going on for two or three days, symptoms of fever begin to appear. Here we arrive at a practical rule. Where a child has diarrhœa, and after labouring under this for a few days, gets an attack of fever, you may be almost sure that it is a case of enteritis, and that you will be acting wisely in treating it as such. In the opinion of many well-informed practitioners, that form of fever which has been called infantile remittent, is only an example of this disease. In proof of this fact, Dr. Marsh, my friend and predecessor in this school, in his paper on jaundice, makes some excellent remarks on this subject. "There is yet one form of disease of very frequent occurrence, the seat of which is in the stomach and small intestines. That to which I allude is the *infantile remittent fever*, or, as it is vulgarly termed, the *worm fever* of children. Its characteristic symptoms, if closely analyzed, will be found all of them to point to the mucous surface as the original seat of morbid action."—*Dublin Hospital Reports, Vol. III.*

It would be well for medicine, if the valuable information conveyed in Dr. Marsh's paper was more universally diffused. I feel convinced that many children fall victims to mal-practice under circumstances of this kind. A child gets symptoms of diarrhœa, has irregular or bad appetite, and swelled belly, the disease is called worm fever; he gets a dose of calomel and jalap, and perhaps passes some worms; for when we come to speak of worms, we shall find that disease of the mucous surface is intimately connected with worms, and, in the opinion of one practitioner, worms may be the result of enteric inflamma-

tion. Well, some worms are passed; the purgative is again used; the child may not pass any more, or he may pass one or two in the week to encourage the practice. But all the symptoms of intestinal inflammation, the diarrhœa, the tympanitis, the thirst, the fever, are supposed to depend upon the presence of more worms, and these are to be evacuated by purgative medicine, and thus the affair goes on until the child falls into tabes mesenterica, or gets sympathetic inflammation of the brain, and dies of hydrocephalus. I regret to add, that in many cases of this kind the head alone is opened; a little fluid is discovered in the ventricles of the brain, the doctor's diagnosis of the head is found to be correct, and all parties are satisfied. In cases of this kind, the early application of leeches to the belly, the regulation of diet, keeping the bowels gently open by enemata and mild counter-irritation, would have saved the patient. This is not mere theory, it is but a statement of facts, supported by the experience of practical men.—*Ibid, Feb. 15th*, 1834.

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27. *On Tubes Mesenterica.* By William Stokes, M. D.—The term tabes mesenterica is employed to designate that species of consumption which depends upon disease of the mesenteric glands. The common idea formerly entertained with respect to this affection, and, I believe still to a great extent, is, that the disease first commenced in the mucous glands, and from these extended to the lymphatic ganglia of the mesentery, which in their turn became enlarged, thickened, and less pervious, so that a sufficient share of nutriment cannot be absorbed, the consequence of which is that the patient dies of atrophy and exhaustion. With such views of the case, the principles of treatment consisted in employing a class of medicines called deobstruent, the operation of which was supposed to be efficacious in removing this obstruction, this deposition in the substance of the mesenteric glands, and the enlargement by which it was accompanied. This was, and this, I am sorry to say, is the idea still entertained by many. What is the actual state of the science with respect to this disease? It is found that the glands are certainly changed in their structure, and that they are manifestly enlarged; but this is only a link in the chain of phenomena, for it has been proved that in *the majority of cases the disease is ushered in by enteritis, and that the swelling of the glands is the result of disease, propagated along the course of the lymphatics from the mucous surface of the intestines to the mesenteric ganglia.* This preparation, which I shall send round, will give you an idea of the actual state of the disease. Here is one of the glands which has been cut through; it exhibits the cheesy texture commonly observed in this disease, but you can perceive there are a number of lines running towards each of the glands; these are the engorged lymphatics, which you see correspond with ulcers on the mucous surface of the small intestine. That this is the true pathology of the disease will appear from the following circumstances: First, it has been proved that the glands of the mesentery commonly become inflamed, enlarge, and even suppurate, in cases of inflammation of the mucous membrane of the intestinal canal in the adult. A patient gets enteric inflammation and dies; on dissection we find distinct marks of disease in the intestines, and, in addition to this, we find the glands evidently diseased. Here is one fact. In the next place, it has been proved that in a great many cases of tabes mesenterica, if you retrace the history of the disease, if you go back to its first and earliest phenomena, you will find that it began with the symptoms of what has been termed remittent fever, or that the patient had enteritis or diarrhœa, which afterwards became chronic, and that then the symptoms of tabes mesenterica began to appear. In the third place, you will find that in a vast number of cases, where a fatal termination has occurred, if you pursue your dissection, and slit up the whole of the ileum, you will discover numerous old ulcerations of the mucous membrane, and find that the lymphatics which correspond with these ulcerations are in a state of manifest disease. Lastly, it has been observed, that the best treatment for tabes mesenterica, is that which is calculated to remove enteric inflammation, and that the old treatment, founded

on the principle of removing obstruction by the use of alkalies, absorbents, and solvents, is erroneous and false in the majority of cases. So that we have proof of the origin of this disease in intestinal inflammation, drawn from the occurrence of analogous affections in the adult, from the phenomena of the disease in its early stage, from morbid anatomy and from treatment. I think there can be no doubt that in most instances it commences by intestinal inflammation. Of course a predisposition to disease of the glandular system will favour the occurrence. But is there no case in which the disease has commenced in the glands, and where the mucous membrane of the digestive tube is secondarily engaged? My answer to this question is, in a few cases we cannot prove that the disease commenced in the mucous membrane, and there is no reason why the glands of the mesentery should not be liable to primary tuberculous or scrofulous deposition as well as those of any other part of the body; but, in a vast number of instances, the enlargement of the mesenteric glands is secondary, and resembles the inflammation of the inguinal glands which results from chancre on the penis. I would advise you to consult the Commentaries on Pathological Propositions by Broussais. On this subject, also, Dr. Mackintosh's Practice of Physic.

There is one thing more connected with this disease, which is of considerable importance, and to which I shall briefly draw your attention, and this is, that this inflammation of the glands of Peyer and Brunner, this *dothin-enteritis,* as it has been called, is a very common cause of slow convalescence in fever. You will meet with cases of fever which will go on to the 17th or 21st day, and then something like a crisis takes place; you expect that from this time forward the patient will get progressively better, but in the course of a few days you will be surprised to find no amendment, and that he is not gaining strength; you feel his pulse, and find it quick and small, his attendant informs you that he is restless at night, and when you ask him how he feels, he says he has no particular complaint, but that he is very weak, gets no sleep at night, and has no appetite. Under these circumstances you are anxious to find out what his disease is; you inquire into the state of the heart, lungs, and brain; you find no evidence of disease in any of these organs; you run over in your mind the symptoms present, the feverishness, quick pulse, want of appetite, restlessness, and finding some degree of abdominal tenderness and tympanitic swelling, you arrive at the conclusion, that the return of health and strength is impeded and delayed by the existence of a dothin-enteritis. The first person who discovered this fact was Dr. Cheyne. "In these cases," says he, "the distress of the patient often bore no proportion to the danger he was in; the former was very little, while the latter was extreme. The disease would proceed without violent symptoms; nay, a patient would seem to be recovering, although without any critical discharge; he would call for full or middle diet, and for days take his food regularly. The only circumstance in his situation which demanded attention was that he regained neither flesh nor strength, and he expressed no desire to leave his bed. Then, his pulse again became quick and his tongue dry; and he would complain of dull pain and uneasiness in his belly, attended with soreness on pressure, and a degree of fulness in the upper part of the abdomen. Then came on a loose state of the bowels and great weakness. Probably at the next visit the patient was lying on his back, with a pale, sunken countenance, and a very quick pulse; his mind without energy. Then his stools, (mucous,) passed from him in bed, and the urine also. Perhaps a hiccup came on; next his breathing became frequent, in which case death was at no great distance."—In all these cases the mucous membrane and glands were found in a state of decided disease.

Now, what was the nature of this disease? It came on as a secondary affection during the course of fever, became more marked and intense, and finally destroyed the patient. I have seen very many cases of this disease. I give you this as a general rule:—when, after the apparent termination of a fever, your patient convalesces very slowly and imperfectly; when you find that he is

becoming weak, that his pulse is quick, his belly tympanitic, his thirst still present, *and all this without evidence of disease in the respiratory, circulating, or nervous system*, you may suspect inflammation of the mucous glands of the digestive tube, which may terminate in deep ulcerations; and you will not be surprised if your patient should be carried off by rapid peritonitis, occasioned by an ulceration of all the coats of the intestine. I have witnessed many instances of the truth of this statement.

It has been objected to the doctrine that infantile remittent fever and tabes mesenterica depend on inflammation of the mucous membrane of the digestive tube, because it has been found that purgatives are sometimes useful in the treatment of the disease; and those who bring forward this objection ask, "if purgatives give relief, how can it be intestinal inflammation?" Now, what are the real facts of the case? These cases, which have been relieved by purgatives, are cases in which purgative medicine has been given in the early stage, and has been productive of benefit; or, in other words, where the disease is only just commencing, and where its cause is proved to be the presence of irritating matter in the bowels. A physician is called to a case of this kind; he gives a purgative; a quantity of offending matter is evacuated, and the child gets better. You should act in the very same way, and have recourse to purgatives whenever you have reason to suspect the existence of irritating or indigestible matter in the bowels. You are to employ purgatives on the same principle as every one employs emetics, in cases where corrosive poison has been swallowed; but no one is inclined to think that he will be able to cure the disease by the continued use of emetics. But, unfortunately, persons do not attend to the actual state of the digestive tube; they go on prescribing purgative after purgative, until the irritation, which was originally produced only by indigestible matter, becomes exacerbated, and terminates in ulceration of the intestinal mucous surface, accompanied by all the symptoms of tabes mesenterica.—*Ibid.*

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28. *Diseases of the Large Intestines.* By William Stokes, M. D.—You will see in the various systematic treatises on the practice of physic, separate descriptions of the affections of this portion of the digestive tube, you will find diarrhœa in one chapter and dysentery in another, and you will observe, that a great deal of ingenuity has been expended in forming nosological differences between these affections. I fear that much of what has been written respecting them is rather calculated to puzzle and mislead than to inform the student. Viewed anatomically there is no essential difference. You may for every practical purpose place them in the same class, and consider them as the result of the same morbid condition of the same part, namely, an inflammation of the lower portion of the digestive tube. Some persons may quarrel with the term inflammation,—call it then irritation if you please, but the truth is, that it is disease of the lower portion of the intestine, the results of which are increased sensibility and altered secretion, and this description, I think, will fairly apply to one as well as the other. If a man has purging with fever and pain it is called dysentery, if he has purging without pain, and without any manifest febrile excitement, we call it diarrhœa. But, in cases where persons have died, after having laboured under diarrhœa for a length of time, we *generally* find, on dissection, lesions of the mucous membrane of the intestinal canal, sufficient to account for death. There are some cases indeed, in which the mucous surface takes on a gleety discharge, similar to that which follows gonorrhœa, and under such circumstances you will not be able to discover any distinct anatomical evidence of diseases. These, however, are comparatively rare, and bear little or no proportion to those cases which present distinct traces of organic lesion.—*Ibid. March 1st*, 1834.

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29. *On Dysentery.* By William Stokes, M. D.—The first principle I have to enforce on this subject—and you may take it as an observation based on the soundest pathology—is this, that dysentery is inflammation of the large intestine. In some cases it is complicated with fever, and in others with disease in

the upper portion of the digestive tube; and I believe that those cases, which are termed *epidemic dysentery*, are those in which this disease is combined with typhus fever, or with an extensive affection of the small intestine—where there is ileitis as well as colitis. I shall not take up your time with discussions respecting epidemic dysenteries, or those of warm climates; it will be sufficient for the present to allude to that form of disease which is observed in this country.

I have told you that dysentery is an inflammatory affection of the great intestine, and all the symptoms during life, as well as the phenomena revealed by dissection, tend to confirm this view of the subject. We often have fever because the constitution sympathizes with the inflammation of an important organ; we have excessive pain and irritation of the intestine, in consequence of its muscular fibres being involved in the inflammation; and we have discharges of morbid, purulent and bloody secretion. You will now please to inspect this preparation, and hand it round. See the effects of dysentery—the extensive inflammation, ulceration, and sloughing of the mucous membrane. Here is another preparation; you perceive the whole surface of the colon is covered with coagulable lymph, which, in some cases, forms a chief part of the dejections. Here is a preparation which exhibits extensive sloughing of the mucous membrane; its tissue, you see, is quite abraded and destroyed. Here is a preparation of chronic dysentery, which presents a very curious appearance; the mucous membrane is finely mammilated, as it were, and it is stated on the label, that the process of cicatrization was going on. If you compare it with the others, you will find a remarkable difference. Here is another specimen of dysenteric destruction.

Here, then, is a disease in which we have violent inflammation of the mucous membrane and submucous cellular tissue, and, in severe cases I believe, of all the coats of the great intestine, except the serous. Let us rehearse its symptoms briefly. Fever of an inflammatory or typhoid character, great pain and excessive irritability of the great intestine, morbid discharges of purulent, bloody, and lymphy matter, twisting pains called *tormina*, and frequently the absence of fæcal matter in the dejections.—*Ibid.*

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30. *Destruction of the Central Substance of the Spinal Marrow.*—M. Maisonneuve has communicated to the Anatomical Society of Paris, the interesting, and perhaps unique case of a woman affected, at the age of twenty-six, with a paralysis of motion and sensation of the upper extremities and of motion alone in the lower limbs, coïnciding with the destruction of the gray or central substance of the upper portion of the spinal marrow to the extent of eight or nine inches: a species of accidental "*syringo-miélie*," analogous in form to that sometimes met with congenital.—*Archives Gén. Feb.* 1834.

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31. *Cartilages not Susceptible of Inflammation.*—A knee-joint affected with white swelling has been exhibited to the Anatomical Society of Paris, a part of the articular surfaces of which was destroyed, but there remained portions of cartilage which had preserved their physiological characters. This case, with many others of the same kind, has induced M. Cruveilhier to believe that these cartilages are not susceptible of becoming inflamed, and that they are mechanically destroyed in consequence of the alterations in the bone.—*Ann. de la Méd. Phys. Feb.* 1834.

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32. *Serous Apoplexy.*—Various specimens have been presented to the Anatomical Society of Paris to demonstrate that the serous effusion into the cerebral cavities is not the cause of apoplexy; but that it results from an affection of the encephalic organs, and that it is incorrect to make a species serous apoplexies.—*Ibid.*

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33. *Seat and Nature of Gonorrhœal Orchitis.*—The *Journal Hebdomadaire*, for the 17th of May last, contains an interesting memoir on this subject by Dr.

Marc-Moreau. The author maintains, we believe with justice, that hernia humoralis consists of an acute inflammation of the vasa deferentia, of the epididymis and tunica vaginalis, and that this inflammation rarely extends to the substance of the testicle. The truth of this view he considers to be demonstrated—1st. By anatomy, which teaches us that the testicle enveloped by a dense, elastic, and fibrous membrane, could not acquire three, four, five, six, and ten times its normal size, without being disorganized. 2d. By clinical experience, which has shown the existence of fluctuation, especially at the commencement and termination of the disease. 3d. Finally, by post mortem examinations, in which the testicle, which was supposed diseased, has been found healthy; whilst the epididymis and tunica vaginalis have constantly presented pathological alterations, and that in the cavity of the serous membrane a fluid of variable colour, consistence and qualities have always been found.

SEMEIOLOGY.

34. *Foramen Ovale remaining Open in the Adult.*—That this does not necessarily occasion cyanosis sufficient proof can be adduced. M. Ribes exhibited to the Anatomical Society of Paris the heart of a man sixty years of age, in which the auricles freely communicated without there being any change in the colour of the skin. M. Reignier has also exhibited to the same society a heart, the two auricles of which communicated by a net-work with large meshes; but what was most curious in this heart, was a foramen of the size of a quill, by which the two ventricles communicated, thus offering a double passage for the mixture of the two kinds of blood; and yet even in this last case there had been no cyanosis until towards the close of life.—*Archives Gén. Feb.* 1834.

35. *Aneurism of the Aorta simulating Laryngeal Phthisis.*—A woman, forty-eight years of age, who had been in ill health for ten months, was treated for laryngeal phthisis. She had, in fact, pain in the larynx, cough, at times paroxysms of suffocation, analogous to those of croup, or of œdema of the glottis. The voice was feeble, interrupted, sometimes shrill. An attack of hæmoptysis supervened on the 30th of March, 1831, and three days afterwards the patient unexpectedly died in a state of syncope; the hæmoptysis which had been suspended having recurred. On post mortem examination, an aneurismal tumour of the size of a large turkey's egg, was found upon the concave and posterior face of the arch of the aorta. This tumour communicated with the œsophagus by an opening of six lines. The left bronchus was flattened and almost obliterated by the tumour; the recurrent nerve of the same side was atrophied in consequence of the compression to which it had been subjected, (whence the alteration in the voice;) the stomach and intestinal tube were filled with blood. All the other organs were healthy.—*Ibid.*

36. *Ossification of almost the whole extent of the Aorta and Pulmonary Artery taken for an Aneurism of the Heart.*—The subject of this case was a woman, seventy-three years of age, who had been in ill health for five or six years, and who had had palpitations, oppression, paroxysms of asthma, &c. She died dropsical. In the intervals of the paroxysms the pulsations of the heart were strong, full, but regular. On post mortem examination there was serous effusion in the abdomen and chest; the pulmonary artery was ossified; the ossifications developed between the internal and middle coats of the arteries were exposed in many points, in consequence of the destruction of the internal membrane; they occupied the whole extent of the aorta from the concavity of its arch to the second lumbar vertebra, and pulmonary artery from its origin to its bifurcation. These arteries, which in the dead body are ordinarily found empty, were filled with black, coagulated blood. The heart was neither

dilated nor thickened; the tricuspid valve presented several small points of ossification, as also one of the sigmoid valves of the pulmonary artery.

The patient in this case presented all the symptoms of aneurism of the heart, although this organ was healthy. These symptoms of aneurism were produced; 1st, by the increase in the force and frequency of the contractions of the heart, rendered necessary to compensate for the loss of contractility in the arterial parietes; 2d, by the presence of a greater quantity of blood in the cardiac cavities, as well as in the surrounding organs.—*Ibid.*

37. *Particular Sound of the Heart.*—Professor Puchelt has described under the name of *heulender ton* a peculiar sound of the heart, which he ascribes to hypertrophy with dilatation of that organ, coïnciding with an aneurismal condition of the origin of the aorta without enlargement of its orifice. This sound is analogous to that termed by Laennec *bruit de soufflet sibilant ou musical*, but which he observed only in the arteries, and the cause of which he could not explain, not having had any opportunity of making a post mortem examination. Hope designates this same rhonchus, musical bellows murmur, and considers it as a sign of an alteration of the valves, without however adducing in its support any anatomical proofs.—*Gaz. Méd. March 29th*, 1834.

38. *Softening of the Spinal Marrow simulating Aneurism of the Heart.*—A woman, twenty-nine years of age, very subject to nervous affections, resulting from mental anxiety, died after four days residence in the Hôpital St. Louis, a victim to violent dyspnœa, accompanied with cardiac pain and strong, tumultuous, irregular, and extensive throbbing of the heart. On post mortem examination, there was not found any lesion of the organs of the chest. Finding only some traces of congestion in the brain and nothing unusual in the abdomen, the spinal column was next examined. This from the termination of the cervical portion to the spinal marrow was completely softened; the medullary substance was mixed with liquid and turbid blood; the membranes were congested in the same region, and the arachnoid slightly opaque.—*Archives Gén. Feb.* 1834.

39. *Pulmonary Tubercles simulating an Affection of the Heart.*—When miliary tubercles are sufficiently numerous to occupy a great part of the parenchyma of the lungs, without rendering this tissue impermeable to air, the chest preserves it sonorousness; the expansion of the lungs is heard throughout the chest, and what strikes the observer, is the exaggerated action of the heart and the oppression. In general, it may be said, that many phthisical patients appear at first to be affected with disease of the heart. M. Huguier has seen at the Hôpital St. Louis, a woman treated for two years for hypertrophy of the heart, in whom a post mortem examination showed this viscus perfectly sound, and the tissue of both lungs crowded with granular tubercles, the largest of which did not exceed in size a pea.—*Ibid.*

MATERIA MEDICA.

40. *Lotions for the Cure of Porrigo Favosa.*—M. Dauvergne employs the following lotions in the treatment of *Dartre crustacée flavescente, (Porrigo favosa*, Bateman.) 1st. ℞. Iodin. ʒiij.; Iodur. potass, ʒvj.; Aq. distill. ℥iij. M. 2d. ℞. Sulphuret potass, ʒiv.; Aq. distill. Oss. M.

These solutions are mixed in the proportion of a drachm or tea-spoonful of the first, with half an ounce or table-spoonful of the second; the whole in a bason of tepid or cold water, according to the indication.—*Journ. de Pharm. Jan.* 1834.

41. *Properties and Effects of the Digitalis Purpurea.*—The Nos. of the *Archives Générales* for January and February last, contain an interesting memoir by M. Jonet, on the Digitalis purpurea. From all the facts which this writer has collected, he infers—

1st. That the powder and watery extract of digitalis, (he prefers the latter,) may be administered in doses as high as sixteen or eighteen grains, commencing with one grain, and daily increasing the dose, without in most cases producing marked disturbance of the digestive functions. That the alcoholic extract cannot be depended upon, and that the ethereal extract is the most uncertain preparation. The infusion he considers as the most active preparation, and the dry plant to be preferable to the fresh leaves.

2d. That in a great majority of cases, digitalis employed in powder, aqueous extract, and especially in infusion, exerts an irritating action upon the digestive organs, always evinced by colic, diarrhœa, nausea, and vomiting. That the property of the digitalis in rendering the pulse slower is indisputable, and that the gastro-intestinal irritation does not prevent this result. That the respiration may be affected by the remedy, dyspnœa most frequently disappearing as the pulse diminishes in frequency. That a distinct disorder of the nervous system is rarely observed after the administration of digitalis. That the digitalis really possesses hydrogogue properties; and that the decoction of this plant in the dose of from two to four ounces, applied to the abdomen, is a powerful diuretic, very preferable to the internal administration of other diuretics, because it may be employed in all cases of gastro-intestinal irritation.

3d. That palpitations of the heart, which are most frequently the prelude to a severer affection, ordinarily yield to the use of digitalis. That anasarca and ascites may be relieved by the judicious use of this plant, and that the success attributed to it in mania, hæmoptysis, advanced phthisis, scrofula, and many other diseases is certain.—*Archives Gén. March*, 1834.

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42. *Ointment for the Cure of Porrigo.*—The following ointment has been found by M. Biett more efficacious in the cure of porrigo than any other remedy:—℞. Iodur. sulph. 24 to 36 grs.; Axung. ℥j.—*Bull. de Therapeutique.*

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43. *On Rhatany Root.* By M. Soubeiran.—Rhatany is one of those remedies to which the medical profession are much indebted, and it is considered as one of the best of the astringent class for internal use. It is important, however, to obtain the expected results from it, that it should be used with proper precautions, and with a full knowledge of its powers.

Vogel, Gmelin, Peschier and Tromsdorff, examined this root, and if some points connected with its analysis are not completely elucidated, yet its chemico-medical history has been fully developed. Rhatany contains tannin in three states:—1st. Pure; in which case it is colourless, and possesses all its peculiar properties. 2d. In a state insoluble in water, resulting from the alteration of the tannin by contact with the air; in this state it has lost its solubility and astringency. 3d. In the form of extractive, this is a soluble combination of pure tannin with No. 2, and gives to the fluid preparations of rhatany their characteristic red-brown colour. This root also contains a small proportion of gum, a little fecula, some saccharine matter, and an acid whose properties are not yet fully determined.

It is generally used in decoction or in extract, each of which forms may be modified to meet the exigencies of the case.

Water acts on rhatany root in different manners, according to the temperature at which the preparation is made. The decoction is a fluid of a dark red colour and astringent taste, and which becomes more or less turbid on cooling. The infusion is much less highly coloured. It is of a reddish-yellow; and judging from its appearance alone, its efficacy would be said to be much inferior to that of the decoction, but on tasting the two preparations, another opinion would be formed. Notwithstanding the light colour of the infusion, its astrin-

gent taste greatly surpasses that of the decoction, and in fact is the most energetic preparation. When rhatany is placed in tepid water, this is absorbed by it, and dissolves all the soluble tannin, the gum and saccharine matter, but if its action be prolonged, the teguments of the fecula are torn, and the soluble matter enters into combination with the tannin and dissolves it; at the same time, the soluble tannin becomes saturated, as it were, with No. 2, spoken of above, and an additional quantity of this latter is formed by the oxidizing action of the air. The decoction is dark coloured, and at the same time but little charged with the active principle on the one hand, because the effects of tannin are diminished by its union with the insoluble matter and fecula, and on the other because the vegetable fibre becomes saturated with it, and contributes to abstract it from the solution. This solution becomes turbid on cooling, by the precipitation of a part of the insoluble matter, and by the separation of tannate of starch, which is not soluble in water below 122° F.

The *Codex* orders the extract to be prepared by exhausting the root with alcohol at 22°, and evaporating this tincture to get rid of the vehicle. In endeavouring to ascertain why the Codex has made choice of alcohol, we have supposed it was with the intention of diminishing the chances of any alteration of the tannin, as the evaporation can be for the most part carried on in close vessels and at a low temperature. But we here have an instance of the inconvenience of adopting the best founded theoretical principles, when their applications have not been confirmed by a special reference to existing circumstances.

I prepared four different extracts, one by decoction in water; one by infusion, another with alcohol at 22°, and the fourth with alcohol at 33°. I repeated this with different roots, and obtained the following general results. Alcohol at 33° and at 22°, furnished the greatest proportion of extract. The decoction gave less, and the infusion a still smaller quantity; but when the medicinal value of these preparations are considered, the results are widely different. The extract by infusion contained 90 per cent. of soluble matter, that by decoction gave 40 per cent. of insoluble remainder. In the alcoholic extract made with the excipient at 33° there was from 60 to 75 per cent. of soluble matter, this was rather less when alcohol at 22° was used.

In the extract by alcohol at 33°, all the soluble matters contained in the root are to be found, with the exception of a small proportion of the gum and fecula; the evaporation being made in a closed vessel, the tannin was unaltered, and hence the extract represented all the pure tannin which the root originally contained. Alcohol at 33° is in fact the vehicle which furnishes the largest proportion of tannin, but it then is mixed with the matters insoluble in water.

That obtained by alcohol at 22° is very analogous to the preceding, except that it contains more of the gum.

Decoction caused a great loss of tannin. Many circumstances combined to occasion this; the fecula which unites with one part, the ligneous fibre which becomes saturated with it, and the prolonged action of air and heat, all tend to diminish the quantity in the preparation. The insoluble matter is here a mixture of two bodies; No. 2, which is soluble in alcohol, and the compound of tannin and fecula, which is not.

The extract by infusion is richest in soluble matter, the water only takes up what is permanently soluble, and hence the extract itself is wholly soluble in that fluid, with the exception of the small portion which has become oxidized during the evaporation.

It results from what has been said, that the extract made from the infusion is to be preferred, as it contains the greatest proportion of the active principle. At the same time, I would observe that the relative quantities of soluble and insoluble matters contained in an extract of rhatany are of course variable, as each root furnishes different proportions, and also that the manner in which the operation is conducted, materially influences the results.—*Journ. of Phil. Coll. of Pharm. and Journal de Pharmacie, Nov.* 1834.

44. *Syrup of Asparagus.* By A. Latour and Roziers.—The syrup of asparagus has justly obtained a high standing, from the marked sedative properties it possesses. But its tendency to fermentation prevents its being kept for any time without its undergoing a great alteration, which developes an unpleasant putrid odour, and deprives it of all its medicinal properties. To obviate this, the Journal of Medical Chemistry of 1830, proposes to dry the shoots, and to make the syrup as it is wanted, from an infusion of the dry plant.

This plan does not attain the desired result, as it is extremely difficult to dry these shoots, on account of their succulent nature, and also because the aromatic principle is destroyed by this process; we have endeavoured to discover some mode, which whilst it would enable us to prepare the syrup at any time, would also preserve the full qualities of the fresh plant. The following has appeared to us to completely fulfil these indications:—

Preparations.—1. The asparagus shoots are to be reduced to a pulp, and the juice separated by means of a strong press. The quantity of juice furnished by the early shoots, is generally equal to two-thirds of their weight; later shoots only afford about half their weight.

The juice after having stood to settle, is decanted and weighed, then heated in a water bath to coagulate the alumine, afterwards filtered and evaporated to the consistence of honey; when a quantity of sugar equal in weight to the juice before concentration, is to be added. This aqueous *saccharole* is to be dried in a stove.

2. To the marc or parenchyma is to be added two-thirds of its weight of alcohol at 30°, and the whole suffered to macerate for three days in a close vessel, then subjected to pressure through a linen cloth, and the same quantity of alcohol again added to the marc, and the mixture suffered to macerate till the next day, when it is to be boiled for five minutes, subjected to pressure as before; and the products of the two operations united together.

This mixture is to be distilled till three-fourths of the alcohol employed has passed over; when it has cooled, the same quantity of sugar as above is to be added, and the *alcoholic saccharole* which results is to be dried.

These preparations are to be kept in well-stopped bottles, and from them a syrup may be extemporaneously prepared at all seasons in the following manner. Equal portions of each are to be taken and dissolved at a moderate heat in half their weight of water. When the syrup has been heated to ebullition, it is to be withdrawn from the fire and strained.

This syrup unites all the conditions required in good syrup of asparagus, and retains in the fullest manner the aromatic taste of the vegetable. The sedative properties of this syrup are much augmented in this preparation, as has been amply tested in practice. But in which of the principles peculiar to this plant does the sedative power reside? Numerous researches on this subject have been made by Mr. Johnson, who attributes it to a resinous body, from which he states that he makes his syrup.

Anxious to verify this fact, and to possess a readily prepared syrup of asparagus, we made the following experiment, Mr. Johnson not having published his method of manipulation:—

Thinking that the resinous substance would be found in the parenchyma of the asparagus after expression, as no trace of it was discoverable in the juice, we treated a certain quantity of this substance previously dried, with double its weight of alcohol at 31°. At the end of three days, the alcohol acquired a beautiful green colour. When boiled it deposited a great quantity of a green substance, part of which adhered to the sides of the vessel, and another floated on the surface in the form of globules. We separated this substance by decantation, and discovered with astonishment that this pretended resinous principle presented all the characters of a fixed oil.

This oil is of a beautiful dark green colour, which, however, is very fugitive; for an alcoholic solution of it, exposed to the rays of the sun, soon lost its peculiar tint, and the oil which remained after the evaporation of the menstruum, was only of a yellowish hue. It has a peculiar and powerful aromatic

odour, but a mawkish taste. It is somewhat viscous; at the temperature of 53° F., its consistence is that of a soft grease or of thick oil, which does not liquify till 75°. Placed in a tube, and cautiously exposed to the flame of a spirit lamp, it first assumes a reddish colour, and is then decomposed, affording the usual products of the oils, and leaving a tolerably voluminous charcoal.

Water has no action on it—ether and the oils dissolve it in all proportions. Alcohol at 31° readily takes it up. Nitric acid dissolves it without apparent decomposition, as does also hydrochloric acid, which appears to heighten the colour. Sulphuric acid dissolves it, acquiring a slight red tinge. By the action of a regulated heat, the colour becomes blood-red, and the solution is thickened. Water precipitates it in a grayish form.

The alkalies dissolve it rapidly, and the acids precipitate it from this combination in white flocculi. All these characters demonstrate to us the existence of a fatty oil extracted by the alcohol. This appears to us to be possessed of important medical properties.

It is certain that the syrup of asparagus, prepared either with the alcoholic, or with the aqueous *saccharole*, has a remarkably sedative property, in retarding the circulation and in acting specially on the heart.

From what has been said, it results that the union of the two preparations enables us to obtain the whole of the sedative principles of this substance. Moreover, pastilles may be made which may render the administration of this remedy more easy. We propose the following formula for them:—

Saccharole of asparagus, - - - - - - - -	2 parts
Sugar in fine powder, - - - - - - - - -	1 do.
Mucilage of gum Arabic made with orange flower water, -	Q. S.

Make pastilles of twenty grains.

These pastilles should be kept in a well-stopped bottle in a dry place, as they are apt to attract moisture.

A jelly may also be made with this saccharole by adding a solution of icthyocolla to it. This forms an agreeable compound which might be advantageously used as an article of diet.—*Journal de Pharmacie, Dec.* 1833.

PRACTICE OF MEDICINE.

45. *Treatment of Ileitis.* By Wm. Stokes, M. D.—Laxatives are to be employed in enteritis, on the same principle that emetics are used in cases where corrosive poison has been taken into the stomach. We are not to expect to be able to cure the disease by the use of laxatives, nor are we to have recourse to them in every case; we employ these remedies where we have decided evidence of the existence of offending matter in the bowels. We may meet with a case in the early stage under such circumstances, that the removal of the irritating matter by judicious purgation may completely relieve the patient, and this, I believe, is the foundation on which the superstruction of the British purgative practice in ileitis and tabes mesenterica was raised. It was concluded, that a laxative treatment, which had on many occasions succeeded in removing the first symptoms of the disease, would necessarily cure it in all stages and cases. This, I need not tell you, is wrong. Whenever you give purgatives or laxatives in enteritis, bear this in mind, that the effect which you have to produce is to be brought about at the least possible risk. If you can unload the bowels with a little castor oil or rhubarb, or some mild neutral salt, it is much better than to have recourse to calomel, or scammony, or colocynth. As a general rule, drastic purgatives must be avoided in inflammation of the mucous membrane of the intestines. The school of Broussais committed an error, on the one hand, by never admitting the use of laxatives, and British practitioners have been wrong, on the other hand, by giving too much purgative medicine. The

error of the latter arose from looking always upon purgatives as antiphlogistics, which they are certainly, so far as they contribute to relieve inflammation by causing an increased secretion from the intestinal mucous surface. But this increase of secretion can be produced only by stimulating the organ to which they are applied; and hence, before they can become general antiphlogistics, they must, of necessity, be local stimulants. Further; if in a case of inflammation of the digestive tube you prescribe a purgative, and it fails in causing an increase of secretion, it will add considerably to the existing inflammation. It is, however, of very great importance that there should be no accumulation of offending matter in the bowels; and hence, when you find a degree of fulness in the belly, and the dejections scanty, you should always give a laxative, and follow it up by the administration of a narcotic. By using enemata, you can do a great deal of good, and this without any injury to the digestive tube; and I think they may be always employed with benefit in disease affecting the ileum. Recollect, gentlemen, what I wish to impress upon you respecting this part of the treatment is, that laxatives are to be employed in ileitis as one of the means of cure; but you are not to expect that a cure by the use of these alone will always be a matter of constant occurrence. It is true, that many cases presenting symptoms of enteritis, have, in the beginning, yielded to laxatives; but it is true also, that horrible mischief has been done by their continued or indiscriminate employment.

A few observations now with respect to bleeding. There is in simple inflammation of the mucous membrane of the intestines this peculiarity—it very seldom happens that it is necessary to use the lancet. The whole class of intestinal inflammations is so generally accompanied, even in the early period, with marked prostration and a typhoid condition of the whole system, that general bleeding is very seldom employed. But when the disease is recent, the constitution vigorous, the patient young, the skin intensely hot, and the pain violent, (a combination of circumstances which is not of very common occurrence,) you may employ the lancet with safety and with great advantage to your patient. But what I wish to impress upon you is this—you must not expect to cut short an attack of enteric inflammation by general bleeding. Over inflammations of mucous membranes in general, but particularly of the intestinal mucous surface, the lancet has comparatively but little direct power; it is in the inflammatory affections of parenchymatous tissues and serous membranes, that we generally observe the most brilliant and decided effects of venesection. Neither can you, as in parenchymatous inflammation, bleed a second and a third time with benefit. In cases of inflammation affecting the mucous membrane of the intestinal canal, you are to look upon venesection as a preparatory step to leeching. Where the pain is violent, the fever high, the attack recent, and the constitution strong, you will do well to bleed; but only bleed once, and then apply leeches in abundance over the suffering organ. There is nothing of more importance, nothing of such decided value, as bleeding by leeches in inflammation of the mucous membrane of the intestinal canal, and here we arrive at a fact, the explanation of which is involved in much obscurity. A patient is attacked with inflammation of the mucous membrane, and glands of the digestive tube, twelve or twenty leeches are applied to the integuments of the abdomen, and their application is followed by extraordinary relief. This is a very curious fact when we consider that between the place where we apply the leeches, and the tissue which is affected, there intervene skin, cellular membrane, superficial fascia, cellular membrane again, deep-seated fascia, muscular substance, cellular membrane again, two layers of peritoneum, and muscular substance enveloped in cellular tissue. Yet, notwithstanding this extraordinary succession of tissues, it is an undeniable fact, that the application of a dozen leeches to the surface of the belly will frequently cut short an intestinal inflammation, or materially diminish its intensity. Here is a fact, the explanation of which is extremely difficult; and I tell you candidly, I cannot explain it. The school of Broussais attempt to explain it as follows. They state that it is a con-

stant law of the economy, that there is a strong sympathy between the internal parts and their respective integuments, but they do not say why this sympathy should exist. We frequently, however, observe facts confirmatory of this law; you are aware that it often happens that, in cases of the deep-seated muscular phlegmon mentioned by Mr. Crampton, in abscess of the liver, and in empyema, we have a swelling of the integuments, showing the existence of a sympathy between the integuments and the internal organs.

In treating a case of inflammation of the small intestine, I think you may generally commence with the application of twelve or eighteen leeches over the ileo-cœcal region. The ordinary result of this application is, that the pain and tympanitis are reduced, and the thirst diminished; but the patient still has fever, and you are to bear in mind that the mere subsidence of pain does not imply the removal of the disease. We may modify the character of an ileitis very considerably by a single application of leeches, but we are not on that account to expect that we shall be able to remove the disease entirely. In general it is necessary to apply them two or three times, lessening the number at each succeeding application, and taking care that they are applied in the proper place, that is, midway between the umbilicus and the crest of the ileum. Many practitioners are afraid of employing leeches in the advanced stage of this affection, in consequence of the great debility, which characterizes the advanced stage of this, as well as inflammation of every other part of the digestive tube. But though I am quite of opinion that the school of Broussais is wrong in using them at any period, still I think they may be employed even where the disease is advanced, *particularly if they have not been used before*, and I have frequently seen leeches applied with advantage as late as the twelfth day. I have employed them myself in the Meath Hospital, as late as the ninth and tenth days, with decided benefit. Many physicians on the continent are in the habit of treating inflammation of the digestive system by the application of leeches to the anus, and this is said to have a very good effect, and the number of leeches required is smaller. In disease of the great intestine accompanied by diarrhœa, tenesmus, and tormina, I think this is an excellent mode, but when the disease is in the upper part of the tube, I prefer applying them to the belly over the situation of the inflamed organ.

Now with respect to internal medicines. In this disease every thing that is administered should be given with the view of removing irritation, and for this purpose I know no better preparation than a combination of ipecacuanha and opium, as in Dover's powder. The exhibition of the compound powder of ipecacuanha is attended with decided advantage. You are all aware of the long-established use of ipecacuanha and opium in diseases of the intestinal canal, and I think there can be no doubt that they possess considerable utility. With this I generally combine some mild mercurial; the best you can employ is the hydrarg. cum cretâ. Give two or three grains of each every second or third hour, as the case may be, and you may continue this for several days. Where there is no diarrhœa, and the bowels have a tendency to be constipated, it will be necessary to order, every second or third day, a mild laxative, a little manna, or rhubarb, or some castor oil; you should insist on the daily use of enemata, and if they answer the purpose sufficiently I would advise you to be sparing of the use of laxatives by the mouth. In addition to these remedies, I am in the habit of giving a considerable quantity of gum Arabic, which appears to have an extraordinary efficacy in disease of the small intestine. I look upon it as peculiarly valuable in the diseases of children. The ordinary mode of prescribing it is to give a certain quantity of gum water. If this is insufficient, you should order half an ounce or an ounce of the gum to be dissolved in a pint or quart of water, which the patient is to use during the day. After the use of the hydrarg. c. cretâ and Dover's powder, this has a decided value in the treatment of ileitis.

In this way, by leeching, mild laxatives, prescribing mercury with chalk, and compound powder of ipecacuanha with gum water, your patient begins to improve. The tenderness of the epigastrium disappears, the tongue begins to

clean, the fever diminishes, the thirst goes off, and appetite returns. This is the favourable termination. When the patient is of a weak and delicate habit, it is of great importance to pay particular attention to supporting the strength, *even from an early period of the disease.* In such a case, after the first week, the physician who neglects the proper means of supporting his patient's strength does wrong, and it has been justly remarked, that a practitioner will be right in supporting the general strength, at the same time he is employing local antiphlogistics. It is in steering clear between these two opposite dangers that the judicious practitioner is seen; he does not allow his patient to die of inanition, while at the same time he takes care to remove local inflammation. I have seen several experienced physicians prescribe leeches to the abdomen on the same day that they ordered the patient to have chicken broth, and even a little wine. There is nothing improper in this; an inexperienced practitioner, who has his eye merely on the local inflammation, is apt to fall into the error of overlooking the constitutional debility, and allowing it to steal upon him. He finds very little difference between the appearance of his patient this day and the next, and thinks the slight increase of debility undeserving of any attention. At last his patient begins to sink visibly, he gets alarmed and has recourse to stimulants, but it is now too late. Besides, there are several articles of diet which support strength, without increasing inflammation, as for instance, chicken broth, sago, arrow-root, strained rice, &c. These do no harm, and they prevent the patient from falling into a dangerous typhoid condition. Let us look at this in another point of view. Suppose you are called to a child who is said to have had an attack of worms, or bilious derangement, or that his bowels were costive, and purgatives were given, that the discharges were found to be bad, and more purgatives were administered; or suppose you are called to a child of a weak scrofulous habit; who has been taking large quantities of purgative medicine, for what has been termed *derangement of the bowels*, and you find the little sufferer with pale, shrunken face, a black circle round his eyes, cold extremities, rapid faltering pulse, great thirst, and evident symptoms of increased cerebral excitement; the little arms and hands are as cold as death, but the belly burning, tympanitic, and very sensible to pressure, and when you compare the radial artery with the femoral, as it turns over the pubis, you will have some conception of the excited condition of the abdominal vessels; and in addition to this train of morbid phenomena, you find there is suppression of urine. Are you to attack these symptoms with antiphlogistic means? No; the first thing you are to do, is to prevent any further mischief, by totally inhibiting every kind of purgative medicine. You are next to consider carefully what the best line of treatment to be pursued is, for here you are under circumstances of difficulty, and have a great many prejudices to contend with. What I find generally to be most successful is this. I begin by taking proper steps to support the strength, ordering the patient to take chicken broth, arrow-root, or jelly; the extremities are to be wrapped up in warm flannel; and if the patient is sinking, and has his mouth and teeth crusted with dark sordes, a little wine, watching its effects. If it produces sleep, if the pulse comes down under its use, and the fever is not increased, it will do a great deal of good, and you can gradually increase the quantity. Always bear in mind, that there is a certain period in all inflammations, in which stimulants prove to be antiphlogistics, a circumstance which has been overlooked by the school of Broussais. So far with respect to constitutional treatment; but what will you do with local disease? The application of blisters is of decided use, nay, I have seen a few leeches very effective. Apply a blister to the abdomen, and dress it with mercurial ointment, at the same time, you may employ frictions with mercurial ointment: you will also swathe the belly with flannel, so as to keep up a comfortable temperature. In this way you will be able to do a great deal of good. You will also prescribe hydrarg. c. cretâ, with Dover's powder; and if the bowels are confined, emollient injections. By steadily pursuing this plan of treatment, you will often rescue from imminent danger a case which would prove

fatal under the purgative plan, and you will add greatly to your own reputation.

There is one form of this disease in which diarrhœa is a prominent symptom, where there is purging from the very commencement. On this form I am anxious that you should have clear ideas. In cases of this kind there is a copious discharge of fluid matter from the bowels. In the majority of cases, you may lay down this law, that where there is a decided irritation of any secreting organ, increased discharges from the surface of that organ give more or less relief. Suppose two cases of hepatitis; in the one we have no secretion of bile, in the other the secretion is copious; the latter is certainly most favourable. Again, suppose two cases of bronchitis; in one there is a copious expectoration, in the other it is extremely scanty; now every medical man knows that the former is more easily managed. The increased secretion of any organ in the early stage is to be looked upon as a relief to the inflammation. The practical inference to be deduced from this is, that we should be cautious in adopting any means of arresting this discharge, as it is one of the modes which nature employs in relieving the irritation of a suffering organ. Well, then, suppose you have a case of enteritis, and that on the first or second day diarrhœa sets in, what does the routine and systematic physician do? He gives chalk mixture and opium with tincture of kino and catechu, and what is the consequence? The belly becomes tympanitic; the pain is increased, and even peritonitis may supervene;—this is one result of the increase of inflammation; or the breathing becomes difficult, and the patient gets bronchitis or pneumonia. Diarrhœa occurring in the early period of this disease is not to be interfered with, except when it gets to such a height as to threaten the patient's life; and where it increases his sufferings by the frequency of the discharges. In the first week or fortnight, when there are only three or four discharges, or even five in the twenty-four hours, I believe it is better not to interfere by prescribing direct astringents; *but in the advanced period, when the powers of life are low, or the discharges very copious*, then the physician comes to the assistance of nature with just reason, and in such cases you should always interfere. The best mode of managing diarrhœa of this kind is to employ small, frequently repeated doses of Dover's powder, with anodyne injections. And here I may mention briefly, to such of you as have not seen them used, the best way of employing them. As these injections are used on a different principle from the common, the latter being intended to empty the great intestine and be discharged, the former to be retained, we are consequently to make the basis of our anodyne injection in such a manner, that it will not prove stimulant from its bulk, or from any irritating substance it may contain. Mucilage of starch, new milk, or linseed decoction may be used as the basis, and the quantity taken for one injection should never exceed three ounces. To this, for an adult, you add from fifteen to thirty drops of tincture of opium, for it is a curious fact connected with this subject, that opium given by the rectum has frequently been observed to exercise a much more powerful effect on the system than when an equal or even smaller quantity has been taken by the mouth. The rule then is, that when you first make trial of the remedy in this manner, feel your way cautiously, and if you find that your patient bears ten or fifteen drops, you can increase the quantity on repeating the enema. An eminent practitioner of this city thinks the narcotic effect of opium by the rectum much better marked than by the mouth, and I believe this to be true in many instances. I believe the administration of opium in this way requires a good deal of caution. I recollect the case of a man who had been for a considerable length of time in the habit of using laudanum in large quantities, and was, in fact, a regular opium eater. During an attack of illness he got an injection containing sixty drops of laudanum; this produced, in a very short time, symptoms of decided narcotism, from which the patient never recovered; in fact, he died with every appearance of being poisoned by opium. There is another fact with respect to this disease, which I would have you bear in mind, that, under certain circum-

stances, inflammation of the small intestine will produce a remarkable tolerance of opium. This applies not only to the advanced stage of enteritis, but also to many other forms of disease. Some time since I made a series of clinical experiments with the view of ascertaining the power which opium possesses in relieving inflammation, and the result has been, that in many cases where the powers of life are so low that we cannot have recourse to the lancet, or any kind of depletory measures, opium alone furnishes us with a powerful means of subduing inflammatory action. When we come to treat of peritonitis, I shall have occasion to speak of the good effects of very large doses of opium, particularly in that form of the disease which results from intestinal perforation. My first trials of this remedy were in affections of serous membranes, and to this I was led by some interesting clinical experiments made by Dr. Graves. I next tried it in diseases of mucous membranes, where antiphlogistics were inadmissible, and here, as in the former cases, I had many proofs of its great efficacy. I shall state the particulars of a very remarkable case. A young gentleman, a pupil of mine, and a member of the class at Park-street, of an irritable habit, was attacked with intense inflammation of the mucous membrane of the intestines. He had a high degree of fever, and his thirst was so insatiable, that for two days he never ceased calling for drink. His pulse was weak but rapid; his tongue red and pointed; respiration very much hurried; but the stethoscopic signs of disease of the lung were absent. His belly was exceedingly tender on pressure; and he had another remarkable symptom—constant smacking of the lips. The case, as you may perceive, was one of severe gastro-enteritis, and it was treated in the ordinary mode, by leeches, cold water, &c., but the disease showed great obstinacy, and at the end of a month the patient was evidently in a state of imminent danger. At this period a curious revulsion took place: the chest became engaged, and the patient got bronchitis. For this he was blistered, and took the decoct. polygalæ with large doses of carbonate of ammonia, under the use of which he recovered. The bronchitis disappeared, but was almost immediately replaced by symptoms of intense gastro-enteric inflammation, thirst, quick pulse, tympanitis, low delirium, and subsultus tendinum. In the course of two or three days diarrhœa came on, becoming more profuse as it advanced. The first day he had four discharges, the next eight, and thus it went on increasing until there was a constant discharge of thin fluid matter from the anus. The patient was quite run down, and on three different occasions his friends thought him dead. Having made an unsuccessful trial of various stimulants and astringents, I determined to try what might be expected from large doses of opium. The patient was dying, and it was necessary to do something instantly, which would be likely to arrest the diarrhœa. I ordered a grain of opium to be given every hour; on the first day he took twelve grains with apparent benefit, the next day he took six, the same quantity on the third day, and on the fourth the diarrhœa had so much diminished, and the young gentleman was so much better, that I thought it might be safely omitted. From this period my patient recovered rapidly. I would not bring forward this case in proof of the efficacy of opium if there were not many others of a similar kind; and I have no doubt that this was a cure effected by the use of opium in large doses. In the treatment of this disease by opium, there is one simple rule, by observing which you will be able to avoid all difficulties, and at the same time have a criterion to judge of the value of the opiate treatment. If the remedy produces the ordinary narcotic effects of such large doses on the system, *it will not do much good.* You begin, therefore, cautiously; and if, after the first or second dose, you find that decided narcotism is produced, or at least more than you would think the quantity given could have brought on, give it up;—it will be dangerous. But if he bears one, two, or three grains, or if, after having taken six or eight grains in the twenty-four hours, he appears to be improving, you may then persevere in the administration of opium, and it will be attended with decided advantage.—*Lond. Med. & Surg. Journ., Feb. 22d,* 1834.

46. *Treatment of Diarrhœa.* By Wm. Stokes, M. D.—Diarrhœa is the frequent passing of stools of a more or less watery consistence, and which may, and generally does occur without fever. This affection may be considered to arise under three different circumstances, but, in point of fact, every form of the disease may be referred to a single cause, as there is no essential difference in the actual nature of the circumstances by which they are produced. A patient, for instance, takes a quantity of indigestible food, this produces irritation in the gastro-intestinal mucous surface, and diarrhœa is the consequence. Another is exposed to cold, or gets wet feet, the mucous membrane of the bowels becomes more or less inflamed, and this terminates in diarrhœa. Again, a patient, labouring under hectic, has profuse perspirations, these go off and are replaced by frequent fluid discharges from the bowels,—here, also, the result is called diarrhœa. All these forms are, however, referable to the same cause,—irritation of the mucous lining of the digestive tube.

A man commits an excess at table, eats something that he cannot digest, and gets diarrhœa. If you happen to be called to such a case at an early period, your course is very plain and easy; there is every chance that the affected organ has received (as yet) no material injury, and it is attempting to relieve itself by increased secretion. The indication here is to get rid of the source of irritation as soon as possible, and this is best done by prescribing a laxative to remove the offending matter, and then following it up with an opiate. The simple rule is to relieve the intestine, and prevent the liability to inflammation. A mild laxative, followed by opiates and demulcents, keeping the patient on a low regimen for a few days, and in a warm temperature; this is sufficient for the management of the first form of diarrhœa. In point of fact, the principal thing, which the practitioner has to do, is to watch his patient, and take care not to permit the inflammatory action to become developed. It is in such cases as these that the expectant medicine is of value. What you are to direct your attention to, is the state of the intestinal surface. If a patient gets an attack of pain, if his belly becomes tender on pressure, if he is more or less feverish, you may be sure there has been some mischief done. If, on the contrary, the diarrhœa yields to the exhibition of a mild laxative and light diet; if the pulse soft and the belly not tender you have no reason to fear. But if the purging becomes more distressing, if the pain is severe, the abdominal tenderness evident, the thirst and restlessness continue unabated, it is a sign that the irritation has produced something more than mere increased secretion, and that actual disease of the mucous tissue is setting in. We have now a true inflammatory diarrhœa, which may be looked upon altogether as an enteritis of that kind, in which there is a copious secretion from the surface of the intestine. You observe this leads us at once to the principles of treatment. Here we have fever, pain, frequent morbid stools, thirst, and abdominal tenderness. Well then, what are you to do? In a case where these symptoms are so severe as to excite alarm, at once begin by applying leeches. Where there is merely evidence of intestinal irritation caused by indigestible food, give a laxative, and follow it up with an opiate; where, in addition to the ordinary symptoms, you have fever, pain and tenderness, never omit the application of leeches. Many a time have I seen cases of this kind, in which chalk mixture and astringents not only failed but even caused additional suffering, speedily and completely relieved by the application of a few leeches. In using leeches, too, we are not, like the practitioners who trust to astringents, playing at the game of double or quits; nor do we stop the purging by exchanging it for something else equally bad, or even worse, for a peritonitis or a bronchitis for instance; *by removing its cause we not only check the diarrhœa; but we obviate any tendency to a metastasis of inflammation to other tissues, and our mode of cure has at once the merit of being successful and safe.*

A patient who has had an attack of diarrhœa should have his belly swathed with flannel;—this should never be neglected. He will also experience a great deal of benefit from the use of the hip bath and occasional opiates. Give also

a combination of rhubarb and Dover's powder, and you will find that it will do him a great deal of good. This is the remedy which Rhæderer and Wægler found to be of extraordinary advantage, in the mucous fever with diarrhœa which ravaged parts of Germany in the last century. Give two or three grains of each every second or third hour; and increase or diminish each of the ingredients according to circumstances, increasing the Dover's powder where the indication is to remove pain and irritation, and increasing the rhubarb where you wish to produce a laxative effect. This combination forms a remedy of decided value in enteric inflammations: it has been much used in such cases by Dr. Cheyne, and I have repeatedly employed it in the Meath Hospital with marked advantage. You are also to bear in mind that though the principle of treatment in this disease is to remove its cause and put a stop to the purging, still you are in no case authorized to give it a sudden check by astringents in the early period. I gave the reasons for this at my last lecture, and showed that it was based upon a general law of the economy. If an organ in a state of inflammation pours out an increased quantity of secretion, *it is the mode in which nature attempts to give relief, and if you suddenly arrest this secretion, the probability is that you will excite more inflammation in that organ, or cause a metastasis in other parts.* This is particularly the case if inflammatory fever exists. You must also attend to your patient's diet. Your object here is to support him on such a diet as will require but little digestive power, and will not produce large collections of fæcal matter in the bowels. Jellies, arrow-root, chicken broth, and mild farinaceous food are the only things that can be used with safety, until the intestinal irritation has subsided.

By pursuing this plan of treatment with steadiness and decision, you generally succeed in cutting short the disease. In some cases the diarrhœa will run on to the chronic stage, just like the gleet which follows gonorrhœa; and this is to be looked upon as the apyrexial period, in which antiphlogistic remedies are no longer admissible, and when you may employ stimulants and astringents with effect. The best way to manage this form of the disease, is to make your patient use warm clothing, or even temperature, and mild nutritious diet; to prescribe the vegetable and astringent tonics, the hip-bath, and the occasional use of mild laxatives, followed by an opiate. In this way, after some time, the disease generally goes off, and the patient recovers his strength. But it may happen that this gleety discharge will continue unabated; it is running the patient down, and he wants some decided remedy to check it. Now the remedies which appear to have the greatest power in stopping this discharge, are the metallic astringents, and the turpentines and balsams, combined with some of the preparations of opium. It is a curious and interesting matter to consider how these remedies act. They are a class of medicines which exercise an extraordinary influence over discharges from mucous surfaces, in a way we do not understand, but the effect is to arrest these discharges. In a case of ophthalmia, accompanied by copious secretion from the conjunctiva, or in a case of chronic gonorrhœa, we know there is nothing more beneficial than metallic astringents and balsams; and we are also aware of the great value which turpentine and balsam copaiba possess in checking the increased expectoration of a chronic bronchitis. In diarrhœa, also, they have the same power; they check inordinate secretion, and remove the morbid condition of the mucous membrane on which it depends, by some effect produced on the surface of that membrane, but in what manner this is accomplished we know not. In severe cases of this gleety discharge, one of the most certain remedies we can employ is acetate of lead. You will seldom have occasion to use this or any of the other remedies alluded to, in the case of a healthy person, because the disease will seldom pass into this second or gleety stage, but if it should, and that it is running down the patient, it behoves you to check it as soon as possible, consistent with safety. Give then the acetate of lead in free and repeated doses, and it is singular to mark what quantities of it patients under such circumstances will bear without any bad consequence ensuing. Hitherto many persons have been afraid to em-

ploy it in large quantities, from fear of producing painters' colic; but at present it is known that this disease is to be attributed to the absorption of the carbonate of lead in almost every instance, and that the acetate is comparatively harmless. On this point I can mention one interesting fact, namely, that I have been in the habit of using it constantly, and in considerable doses, for the last six years, and I cannot bring to my recollection one single instance of colic produced by it. One patient in particular, who was under my care, took it in very considerable doses for six weeks, without any apparent injury. The only cases, in which I have seen the acetate of lead act as a poison, were those in *which it had been used as an external application.* Whether it be that this remedy is more pernicious when employed after the endermic mode, or whether, when applied to the skin, it attracts carbonic acid from the air and is converted into a carbonate, I do not know, but of this I am certain, that where bad effects have followed the employment of the acetate of lead, they have been brought on by its external use. I generally use this remedy in the form of pill, prescribing two grains of the acetate of lead and a quarter of a grain of opium, three times a-day. With the same intention you may employ the turpentines and balsams, which have a powerful effect in checking mucous discharges. Dr. Pemberton, in his work on Abdominal Diseases, speaks very highly of the efficacy of balsam copaiba; and I have seen many cases where turpentine has had a great efficacy in arresting chronic diarrhœa. You will see, in the works on materia medica, some other remedies which you can employ with benefit in such cases, but I may mention one which is not generally known,—the alkali of the nux vomica. Strychnine was first used in checking mucous discharges by a German physician, and afterwards by Dr. Graves in this city. The cases, in which it proves most successful, are those in which there is a mere gleety discharge, a copious secretion from the mucous surface without any inflammatory action whatever, or if there be, where it is so low as not to produce the least feverish excitement or pain. Cases of this kind, in which strychnine has been eminently successful, have been published by Dr. Graves. Among others is that of a gentleman, who had sudden calls, so that he often had not time to reach the close-stool. He passed a quantity of thin jelly-like substance, and then experienced a transient relief until another attack came on. This case was cured by the use of strychnine, one-twelfth of a grain, three times a-day, made into pills with crumb of bread or aromatic confection.

I may mention here, that, in treating gleety diarrhœa in this way, one thing should be always borne in mind,—it is always dangerous to check any copious secretion suddenly, and the danger consists in the liability to metastasis or new inflammation. Never forget this. What generally happens is, that the patient's belly begins to swell, and you have ascites rapidly formed. Now, I have never seen a case do well in which this kind of ascites came on after the sudden checking of a diarrhœa, the patients all died. Another consequence is the rapid supervention of pulmonic inflammation, and here the disease is almost as bad as in the bowels. You will ask how this unfavourable termination may be avoided. The best mode is, while you are arresting the discharge from the bowels, to promote a determination to the surface. While you are using opiates, and stimulants, and astringents, employ general warm bathing, or the hip bath, dress the patient in flannel, and use mild diaphoretics every night. You will also do right in blistering the belly occasionally. In this way you will succeed in curing the worst cases of this chronic flux, without exposing your patient to the risk of new inflammation, or translation of disease to other organs.

One of the most common forms of diarrhœa is the purging which occurs in cases of phthisis; a physician will be called to treat this as often as any other, and it is of importance that you should have correct ideas with respect to its pathology and treatment. The ordinary opinion is, that this kind of diarrhœa is one of the results of hectic fever, and many practitioners, in treating the purging of consumptive patients, overlook the actual condition of the intestine, and only take into consideration the state of the whole constitution, of the hectic

state of which, the diarrhœa is looked upon as one of the symptoms. The consequence of this is, that they do not proceed on the same principles in the treatment of this as of other similar affections of the intestinal canal. Now I would impress upon you, that you should always consider the diarrhœa of phthisis as depending in almost every instance on enteric inflammation. There is no fact in medicine better established than this. Persons think it is the hectic which produces the purgation, but I believe the converse of this proposition is often much nearer the truth, and that the constant diarrhœa often produces and keeps up the hectic. If you examine the digestive tube of a patient who has died with symptoms of phthisical diarrhœa, you will commonly find extensive ulcerations in the colon, cæcum, and ileum. In some cases of consumption, where the purging has been very severe, the amount of disease will often be found to be quite extraordinary; I have often seen the whole of the lower part of the tube one sheet of extensive ulceration. I find I have not brought up any specimens of the effects of phthisical diarrhœa from the museum, but will exhibit them at our next meeting. The preparations before us are those which are illustrative of dysentery, but they will convey to you a good idea of the state of the great intestine in the diarrhœa of consumption, for the effects are nearly the same. Observe now, gentlemen, the importance of this fact, and recollect that in treating every case of consumption with diarrhœa you will have constantly to bear in mind this enteric complication. Recollect, also, that one of the best means of stopping it, when all other remedies have failed, is a blister applied over the abdomen. If the purging depended on hectic this would not be the case. I could bring forward several cases in which every thing had been tried without success, when a blister was applied to the belly, and from the time it rose, the patients ceased to be troubled with diarrhœa, and continued so up to the period of death. I do not mean that you should in these cases proceed to attack the enteritis with the same vigour as you would a similar disease in the healthy subject. Generally speaking, I believe this form of enteritis to be incurable, but it is of importance that you should be aware of this enteric complication in phthisis, and when you are called in to treat such a case, you should carefully avoid prescribing any thing calculated to add to the existing irritation.

Before I quit this subject, I wish to make one remark by the way of caution. It not unfrequently happens that a person, labouring under chronic diarrhœa, comes to consult a medical practitioner, and tells him that he has been suffering from this complaint for months, that he has eight or nine discharges by stool in the day, and that he has been under the care of five or six doctors in succession without any benefit. Well, you are determined to have your trial too, and you commence operations by putting him on full doses of acetate of lead. After a week or a fortnight he comes back and tells you he is not a bit the better. You then try turpentine or balsam copaiba—no use. Nitrate of silver—the same result. The man gets tired of you in turn, and perhaps goes to a surgeon to ask his advice. The surgeon examines the rectum carefully, and finds, at a short distance from the anus, an ulcer, which he immediately touches with a strong solution of the nitrate of silver. The ulcer begins to heal, and accordingly as it heals, the irritation of gut ceases, and the diarrhœa goes off. The surgeon is extolled to the skies, and the doctors disgraced for ever in the opinion of the patient. Now this is not an uncommon case. I have seen several instances of it, and I must tell you I was once mistaken in this way myself. These ulcers are situated close to the verge of the anus, they occur chiefly in persons of broken-down constitution, and those who have taken a great deal of mercury. They produce irritation in the colon, tenesmus, griping, frequent discharges by stool, and, most commonly during the straining, a little blood is passed. During the course of last summer, I treated a soldier for this affection, who had been discharged from the East India Company's service, (as was stated in his discharge;) for incurable dysentery. I examined the rectum, and finding some ulcers close to the anus, had them touched with the nitrate of

silver. Under this treatment a rapid amendment took place; and in the space of three weeks the man was discharged quite cured. Now, are you to make this examination in every case? I believe you will act rightly in doing so in every case of chronic diarrhœa in the male, but the examination is absolutely necessary in all cases under the following circumstances: first, when the diarrhœa has been of long standing; secondly, when it has resisted a great variety of treatment; thirdly, when it is combined with tenesmus and a desire of sitting on the night-chair after a stool has been passed, showing irritability of the lower part of the great intestine; and lastly, when the patient's health does not appear to be so much affected as it naturally should be, where there was long-continued disease of a large portion of the great intestine. A patient will come to consult you, who will inform you that he has had eight or ten alvine evacuations every day for the last six months, and yet he eats heartily and looks quite well. Under these circumstances, the cause of the diarrhœa will generally be found to be ulceration of limited extent low down the tube, and capable of being quickly and effectually removed by a strong solution of the nitrate of silver. I shall recapitulate all the circumstances under which an examination is indispensable; where the symptoms have been persistent, have resisted a variety of treatment, are accompanied by tenesmus, and where the injury done to the general health is not in proportion to the duration of the disease. I may mention here, that a medical friend of mine has communicated to me the particulars of another case of this form of diarrhœa in a soldier who was invalided on this account, and who experienced sudden and permanent relief from the application of nitrate of silver to some ulcerated spots which were discovered near the termination of the rectum.—*Ibid. March 1st*, 1834.

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47. *Inhalations of Chlorine in Phthisis.*—M. Toulmouche, of Rheims, has employed the chlorine inhalations in eighty phthisical patients, all of whom had pectoriloquism, and all of whom died. He has seen but one patient with bronchophony cured, and this individual, who died eight months subsequently of another disease, it was found had only dilatation of the bronchi.—*Rev. Méd. April*, 1834.

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48. *Tartar Emetic in Frictions as a Means of Producing Resolution.*—M. Yvan announced to the Academy of Medicine at their meeting on the 4th of February last, that he has found an ointment, composed of a drachm of tartar emetic and an ounce of lard, to produce the resolution of indolent and hardened glandular tumours which had resisted the preparations of iodine and the other usual remedies.—*Annales de la Méd. Phys. February*, 1834.

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49. *Pruritus.*—Dr. Carron-du-Villards has employed with advantage lotions of the distilled water of the Prunus laura-cerasus in pruritus of the genital organs of women, which has resisted many other remedies.—*Bull. Gén. de Therap. Feb.* 1834.

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50. *Swelled Breasts.*—M. Ranque, of Orleans, some time since, (See Vol. V. p. 214, of this Journal,) recommended the laurel water as a means of suspending the secretion of milk; M. Carron-du-Villards, in a memoir in the *Bulletin Général de Therapeutique*, confirms its efficacy, and states that to produce that effect it is sufficient to apply fomentations of equal parts of distilled cherry-laurel water and of the oil of sweet almonds well mixed, to the breasts. Dr. Caffe states, (*Journal Hebdom.*, Vol. II. p. 23,) that he has also had opportunities of appreciating the employment of similar embrocations in cases of mammary swellings with secretion of milk and acute pain, resulting from too rapid weaning, and when salts and other laxatives of various kinds had not afforded any relief. In one case in which there was very acute pain, with swelling of the right breast, the last mentioned physician ordered the application of a piece of fine linen wet with the following liquid:—R. Aq. distil. prun. laur. ceras. ℥j.; Ether.

sulph. ℥j.; Extr. gum. opii, gr. iij. M. The swelling and pain disappeared, as it were, spontaneously.

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51. *Incurable Neuralgia of the Ulnar Nerve.*—Professor Viviani, not long after his recovery from an attack of rheumatic sciatica, began to experience slight pricking and formication, preceded by a feeling of an aura in the left forearm, along the line of the ulna, the ulnar side of the carpus, and in the little and ring fingers. These sensations, at first trifling and transitory, became more severe, and fixed in the palmar superficies of the wrist, on the side of the pisiform bone, and extending thence along the palm to the two fingers, but never retrograding. The paroxysms of pains increased in violence—sometimes short, but dreadfully agonizing, each throb shooting along with the rapidity of lightning; at other times they were more protracted. The pulse at the part was never affected, and the general health of the Professor was perfectly good. During the space of three years, every remedy that could be devised was tried, but in vain. He then consulted the celebrated Scarpa, who gave it as his opinion, that the nerve was probably not diseased higher up than the seat of the pain, as he found that firm compression on the carpus, during a paroxysm, very considerably mitigated the pain. He, therefore, recommended the division of the nerve in the forearm.

An incision was made, beginning about an inch above the pisiform bone, and carried upwards, along the side of the tendon of the ulnaris internus; and, on dissecting between this tendon and that of the pulmaris longus, the ulnar artery and its accompanying nerve were easily exposed. About half an inch of the nerve was excised; the little and ring fingers immediately lost all feeling and mobility.

The hopes of the patient and surgeon were soon blighted. During the night after the operation, a paroxysm, quite as severe as any preceding one, was experienced; the pain seemed to commence at the upper angle of the wound, and darted to the extremities of the two fingers. The condition of the patient was, therefore, not at all bettered by the operation; indeed, the fits of suffering became more lengthened and excruciating; on one occasion, the pain lasted unceasingly for thirty-six hours. The two fingers were all this time quite palsied, and generally half bent upon the palm of the hand.

Four years after this date, Professor Viviani wrote to Scarpa, acquainting him that, since the operation had been performed, (1827,) his sufferings had become more and more intense, and that they had defied every attempt, even to relieve them for a time.—*Med. Chirurg. Rev. and Annali Universali di Med.*

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52. *Mercurial Inunctions in the Treatment of Paronychia.*—M. Serre D'Alais highly extols the use of mercurial frictions in paronychia. The editor of the *Bulletin Therapeutique*, who has tried this plan of treating the disease, says that he has never seen more marvellous cures than those which he has obtained. In a few hours all pain is calmed, and the progress of the most violent panaris arrested. This has constantly occurred in all the cases the editor has treated, (five,) and he considers this method as the most prompt, certain, and efficacious that we possess in this painful and sometimes serious disease. The finger is rubbed every quarter of an hour with some of the mercurial ointment. After each friction the finger should be enveloped in a linen rag, spread with the ointment. One or two drachms are said to be almost always sufficient for the complete cure.—*Trans. Med. Sept.* 1833.

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53. *Soot in Cutaneous Diseases.*—M. Bland extols the efficacy of a decoction of soot, or a mixture of this substance with lard, in obstinate tetters, different species of tinea, especially tinea favosa, malignant ulcers, &c. This formulæ are as follows:—℞. Aq. puræ, ℔j.; Fuligo, manip. ij. Boil for half an hour, express the liquor, and use it in tinea, as a lotion three or four times a day, first removing the crusts by means of poultices. In ulcers, lint is to be wet

with it and applied to the part; and in obstinate fistulæ kept up by caries of the bones, it is to be employed by injection. ℞. Axung. ℥ij.; Fuligo, q. s.; to be mixed in small portions until the ointment becomes of a dark brown.—*Journ. des Connais. Med. Chirurg. May*, 1834.

54. *On the Use of the Phosphoric Acid in the last Stage of Croup.*—M. August Boyer, in an interesting memoir in the *Gazette Médicale* for 15th of February last, suggests the employment of the phosphoric acid in the last stages of croup. He states, that the above named acid, when applied to a mucous membrane, produces an acute, but very temporary inflammation, and that it completely dissolves albumen and fibrin. He thinks it preferable to the nitrate of silver and hydrochloric acid, as it possesses equally with these, the property of exciting a new inflammation, which replaces or modifies the first, and it has this advantage, that while the latter remedies increase the density of the false membrane the first dissolves it. He says that he has taken the false membrane from the trachea of an infant who had died of croup, placed it in the phosphoric acid, and that it was completely dissolved.

It is necessary that the phosphoric acid be entirely free from the nitric acid employed in its formation, since, if it is not, it partakes of the inconvenience of the other acids, that of coagulating albumen.

55. *Bigonia Catalpa in Asthma.*—Encouraged by the success which Kœmpfer and Thumber met with in the employment of the Bigonia catalpa in different asthmatic affections, some of the medical men in Naples have made trial of the plant, and have obtained results equally satisfactory. By administering in the morning a decoction made of the seeds and part of three or four of the husks of this plant, in twelve ounces of water, boiled down to six, and a similar decoction in the evening, the fit of asthma is much diminished in violence. The following is the result of an analysis of this plant made by Signor Grasso: about ten parts of an oily substance; malic acid partly combined with lime, partly in a free state; and lastly, an uncrystallizable sweet principle.—*Lond. Med. and Surg. Journ.* from *Bull. delle Sc. Med. Bologne.*

56. *On the Employment of Chloride of Lime and Soda in some Affections of the Mouth, common in Children.*—Dr. Constant states that wounds of the mouth, ulceration of the tonsils, &c. assume a favourable appearance after the application of chloride of soda or lime, and speedily heal.

Dr. Bonneau employs in conjunction with the above, a gargle composed of decoction of barley, 3 oz.; conserve of roses, 1 oz.; chloruret of soda, ℈j. to ℥j. M.

M. Guersent, in gangrene of the mouth, prescribes a gargle composed of decoction of cinchona, ℥iij.; syrup of orange-peel, ℥j.; chloruret of soda, ℥j. M.

M. Angelot, in ulcers of the gums, uses the following wash. Chloruret of lime, 15 to 30 grs.; mucilage of gum Arabic, ℥j.; syrup of orange-peel, ℥ss. To be applied to the ulcers by means of some lint.—*Bull. de Therapeutique.*

57. *On the Employment of Chloruret of Lime in Itch.*—Dr. Hospital uses generally in the treatment of this disease from ten to twelve ounces of the following ointment:—℞. Lac. sulph. ℥iss.; chlorur. calcis, pulv. subtil. ℥ij.; axung. ℥vj. M.

58. *On the External Use of Croton Oil.*—This valuable drug was first made known to the profession by Dr. Connwell, in 1820, and subsequently its therapeutic effects were investigated by MM. Recamier, Bally, and Majendie; their researches were, however, limited to its internal exhibition, and it was not until 1831 and 1832 that its great value, as a counter-irritant to the skin, was clearly proved by Professor Andral.

External Use. With one or two fingers or, if we choose, with a dossil of

lint, wetted with the oil, we continue rubbing the skin for the space of about ten minutes. This operation should never be entrusted to the patient himself—in two cases at the Hôpital de la Pitié, we observed violent ophthalmia and inflammation of the penis and scrotum induced, no doubt in consequence of the mere inadvertently carrying their fingers to their eyes and genital organs.

The eruption which is brought out by the external use of the croton oil, may be divided into five stages:—1, Rubefaction of the skin—2, Formation of vesicles—3, Conversion of the vesicles into pustules—4, Desiccation of the pustules—5, Desquamation and falling off of the crusts.

These different periods or stages are not uniformly to be observed; they are most conspicuous when the friction has been made with ten or twelve drops of the oil, on a part of the skin where there is much subjacent cellular tissue. The patient at first experiences a tingling warmth, which is quickly followed by a considerable redness, extending an inch or so beyond the sphere of the rubbing. These appearances are generally noticed within seven or eight hours, sometimes in one or two, at other times not for ten or twelve hours; the differences of time required depending, no doubt, on the delicacy of the skin. In from fourteen to twenty-six hours, myriads of small, close-set vesicles make their appearance upon the inflamed skin. Occasionally, a few of the vesicles become greatly magnified, forming true phlyctenæ, filled with a turbid lymph, which speedily change into a purulent matter. In twelve out of thirty-one cases reported by our author, the vesicles passed to desquamation without undergoing the suppurative process.

The usual period at which the serum becomes puriform, is from thirty-six to fifty-four hours after the application of the oil. In one or two days subsequently, the pus begins to exude, and forms grayish crusts over the pustules, and the desquamation is generally over by the eighth or ninth day. If the croton oil is rubbed upon any part which has been recently vesicated, the eruption is, as we might expect, more speedy and abundant.

In six cases it was tried whether the rubbing in of the croton oil, mixed with an equal quantity, or rather more, of that of almond oil, over the arch of the colon, would produce any purgative effects;—an eruption, which reached the second stage, was brought out, but the action of the bowels was not affected. Similar results were obtained when the pure oil, to the amount of twenty drops, was rubbed round the umbilicus. Dr. Rayer states that he has repeatedly induced free action of the bowels by putting two or three drops of the oil upon a surface denuded of its epidermis by a blister. We have not repeated this experiment.

Therapeutic Effects. The diseases in which the external use of this remedy has been employed with most advantage, are chronic rheumatism, arthritic pains, pleurodynia, paralysis, stomatitis, laryngitis, and chronic gastritis.

Case I.—*Sciatica.* A man, aged 48, was admitted into the Hôpital de la Pitié on the 6th December, 1831. For five months preceding he had suffered severely from pain, beginning in his right hip, and extending down the back of the limb, along the course of the sciatic nerve to the outside of the leg. For two months and a half he was obliged to keep the house, and, upon then attempting to resume his work, the pain returned with all its former intensity. He attributed his complaints to exposure to wet and cold. The only treatment which had been followed before his admission was blistering the limb; but he had derived no benefit. When examined in the hospital, the pain was found to be increased by pressure, and by the heat of the bed; he complained of headache, but in other respects his general health was not amiss. Eight drops of croton oil were ordered to be rubbed in over the origin of the sciatic nerve. This produced considerable itching and redness, but no vesicles; and the pain being not relieved, eighteen drops of the oil were rubbed along the whole course of the affected nerve. Next morning the outer side of the leg was much reddened, and vesicles had formed over the trochanters. On the 11th, ten drops more were rubbed in between the trochanters.—12th. The eruption con-

siderable—some large papulæ had appeared over the fibula. The neuralgic pain almost gone—only the heat and itchiness of the eruption are troublesome. He left the hospital in a few days quite well.

Case II.—*Sciatica.* A man, aged 50, entered the La Pitié Hospital in December, 1831, suffering from sciatica of six weeks' standing. Twelve drops of croton oil were well rubbed in between the trochanters, along the outside of the thigh, to the lower third of the leg; a copious eruption was induced, and already, upon the second day, the patient felt relieved. In six days more he was considered cured, and left the hospital, quite delighted with the rapidity of his cure.

He had experienced two severe attacks before—once in 1812, when he was treated in the Hôtel-Dieu, by M. Recamier, with the essence of turpentine—at that time he was six weeks in the hospital; and again, two years ago, after exposure to wet and fatigue, he was admitted into the Hôpital de la Charité, under the care of M. Fouquier, who employed blisters and friction, with anodyne balsam. He was cured then in three weeks.

Case III.—*Sciatica.* A stout, plethoric man, forty-five years of age, had for about a month felt general indisposition, frequently-returning shiverings, and neuralgic pain of the left extremity. He was taken into the La Charité Hospital, and there treated by M. Rayer with repeated venesection, the application of fifty leeches to the hip, and forty more to the back of the thigh. The essence of turpentine was administered inwardly in frequent doses; and besides all this the vapour-bath was used fourteen times. This treatment was continued for three weeks, and as little benefit had been obtained, the patient left the hospital, and a few days subsequently entered the La Pitié. At that time the pain extended from the ischium down the ankle-joint, and it was increased by walking, and by the heat of the bed: the lower part of the leg was annoyed by a feeling of formication. The digestive organs were in good order. Fifteen drops of croton oil were rubbed in over the origin of the sciatic nerve. On the following day, twenty drops more were rubbed over the tract of the affected nerve; a vesicular eruption made its appearance, and the neuralgic pain was already diminished. On the 29th, (third day,) twenty drops were again ordered. 30th. The eruption is very abundant—the vesicles have changed into large pustules. The patient complains only of the itching; the pain is gone. He remained a few days longer in the hospital, until the crusts separated; and, on the 12th day after his admission, he was discharged cured.

A case of chronic rheumatism of the shoulder-joint, supervening on typhus fever, is given, in which general and local bleeding, blisters, &c. had been fruitlessly used for the space of six weeks. The friction with a few drops of croton oil was employed twice; and on the third day the patient could move his arm—although not entirely cured, he was very much relieved when he left the hospital.

Case IV.—*Anæsthesia, or Paralysis of Feeling.* Pierre Dumas was admitted into the Hôpital de la Pitié on the 9th November, 1831. Seven months before he had an attack of erysipelas of the face, and the inflammation had extended down the left side of the neck. Three weeks after his recovery from this illness, he was suddenly seized with dimness of sight and stunning noises in his ear; these symptoms were not constant, but came and went, returning every second or third day.

This state of things lasted for about two months, during which nothing had been done in the way of medical treatment; and then there supervened a general numbness of the whole left side of the face, and the sight of the left eye became affected at the same time—the left nostril lost the sense of smell, and the left side of the mouth its sense of taste. When he was shaving, he felt as if some foreign body was placed upon his cheek; and, in chewing, the food seemed like earth in his mouth. He complained of a very severe frontal cephalalgia—the tongue was loaded, the abdomen soft, the bowels rather relaxed, pulse 90, breathing not affected. He was ordered to be largely bled from the

arm—to use a mustard-bath to the feet at night, and to be put on a light emollient diet.

10*th*. No relief; half a drop of croton oil in two pills at bed-time.

11*th*. Twenty liquid stools from the pills; head-ache much better; paralysis not affected. Eight drops of the oil to be rubbed upon the left cheek and side of the neck.

On the following day the skin was well reddened, and a large crop of confluent vesicles had made their appearance; to our great surprise he had already recovered his sight, taste, smell, and feeling. The fifth period of the eruption, or that of desquamation, was not over until the thirteenth day. He did not leave the hospital till the 12th December, having had a threatening of a relapse of the numbness in a slight degree; but this was checked by a bleeding from the foot.

Case V.—*Angina Laryngea—Aphonia.* An itinerant singer of the streets of Paris, presented, upon his admission, the following symptoms; a frequent, dry, and harsh cough; pain over the larynx, increased by swallowing; breathing sibilant; voice almost entirely gone, so that he could not make himself understood. Upon examining his throat, the velum and its pillars were observed red and swollen. Venesection, a sinipised foot-bath, and emollient drinks ordered. The following day he was much better; the general symptoms were relieved; but the aphonia was as complete as before. Ten drops of croton oil to be rubbed on the front of the neck. In twenty four hours there was a copious confluent eruption, the voice was regained, and the deglutition more easy. He left the hospital three days afterwards quite cured.

Case VI.—*Diptherite, or Stomatitis pseudo-membranacea.* An old soldier, upwards of sixty years of age, exhibited a specimen of this disease to our notice in the Hôpital de la Pitié. It had already existed for eight days, and had made considerable progress; the inside of the mouth and the surface of the tongue being covered every here and there with small oblong crusts, or laminæ of a grayish-white colour, set upon red, inflamed, and swollen bases; the submaxillary glands were painful and enlarged; the breath excessively fœtid, the lips swelled and of a purple hue; and the deglutition very difficult. Sixty leeches had been applied at two different times behind the jaws; and poultices and a multitude of gargles had been used without much good for the poor patient, who could scarcely articulate a word. Eight drops of croton oil were ordered to be rubbed in upon the sides of the neck. On the morrow a copious eruption of vesicles had appeared, and considerable relief was already experienced. From this period the disease appeared to have undergone a favourable change, and in fifteen days more, under the use of acid gargles and of poultices, it was altogether removed.—*Archives Gén. Aug.* 1833, *and Med. Chir. Rev. July*, 1834.

OPHTHALMOLOGY.

59. *On the Use of Soot in Diseases of the Eyes.*—The *Gazette Médicale*, for January, 1831, contains some facts collected by M. Carron-du-Villards favourable to the use of soot in diseases of the eyes. M. Baudelocque, physician to the Hôpital des Enfans, has also extolled this article in scrofulous ophthalmia. The following is the formula of the first named practitioner:—Soot, ℥ij.; dissolve in boiling water, filter and evaporate to dryness. The residue, which is very brilliant, is to be dissolved in boiling very strong white vinegar, with the addition of 24 grs. extract of roses to ℥xij. of liquid. Some drops of this solution in a glass of water form a good resolvent collyrium. M. Carron-du-Villards recommends granulations of the cornea to be touched with a very fine brush wet with the following mixture—Take of Opium, ℥ij.; Cloves, ℥j.; Washed soot, ℥iv.; Cinnamon water, ℥viij.; Alcohol, ℥iv. To be digested for six days in a warm place, and then expressed and filtered.—*Bulletin Général de Therapeutique, March*, 1834.

60. *Of the Capsulo-Lenticular Reclination, or New Method of Depressing Cataract with a New Needle.* By M. Bergeon, Interne of the Hospital Saint Antoine, and Doctor of Medicine.—The frequency of secondary cataract is not questioned; a great service would therefore be rendered to science, by pointing out a method of operating calculated to prevent this unfortunate accident. This was the principal end which I proposed to myself; but I was also desirous of finding a method, which by its excellence and facility would bring to a close the interminable debate concerning extraction and depression. With this view I found it necessary, I will not say to invent a new instrument, but to modify considerably one of those employed by the partisans of depression. My task will doubtless seem very difficult to perform; consequently I shall esteem myself fortunate if I merely approach the end which I desire to obtain, since my efforts will then not have proved entirely fruitless.

To describe the instrument with which I operate, and the method which I employ, to point out the advantages which it seems to possess over those hitherto made use of, and to declare frankly the inconveniences to which it may be exposed, is the course which I intend to pursue in the following dissertation. The needle which I employ, and to which I give the name of *reclinator*, is of the same length as those commonly employed; it is composed of a blade having two surfaces, one convex, anterior, (with respect to the person operated upon,) or iridian; the other concave, posterior, or crystalline, (for I give notice that I shall employ these terms indiscriminately.) The convexity of the anterior or iridian surface, is formed by the reünion of two planes which form a rounded angle along the median line. The posterior surface is concave only in its longitudinal diameter, which is four lines; transversely it is perfectly flat, and differs in this respect considerably from the needle of Scarpa, which presents a bold angle or ridge in this direction; and from that of M. Dupuytren, which also presents a projection in the same direction, less pronounced however than in the needle of the Pavian professor. The transverse diameter of this surface is a line and a half; its concavity is such as to correspond exactly with the convexity of the crystalline lens. The point of the needle, instead of tapering off very finely, like that of M. Dupuytren, on the contrary terminates rather abruptly. The general form of this little blade is that of an oval, a little prolonged, and curved upon itself. The two edges may be distinguished into superior and inferior; the former should be a complete cutting edge throughout its length; the latter for the first half only, starting from the point; this last disposition is made with a view to prevent a lesion of the iris, as will be hereafter observed. The two edges of the blade terminate towards the handle in a narrow portion called the *neck*, beyond which is found a bluish mark two lines in length, which is of great advantage in making known to what extent the reclinator may be plunged in the ocular globe. It is the same object which Graefe wished to attain, by adding to his needle a little transverse bar; but is not the defect of such an expedient immediately obvious? The metallic stem which supports the extremity of the needle is an inch or an inch and a quarter in length. The handle into which the stem is introduced is of the length of the common needles; it has four surfaces or planes; one corresponds with the crystalline surface; it is traversed throughout its whole length by two little parallel lines, which are black if the handle be ivory, and white if it be made of ebony. Upon the plane which corresponds with the iridian face of the needle, are three rounded marks, equally separated from each other; the two planes of the handle which corresponds with the edges of the blade, have no particular mark, and may thus be easily distinguished.

I have already said that, in my process, it was my aim to remove as completely as possible, not only the crystalline in totality, but also the entire capsule, and to repel them unbroken, into a part of the eye, where they could no longer prove an obstruction to vision. If I attain this end, it must be acknowledged that I will have found the solution of a very difficult problem, and one which has been proposed by the illustrious Scarpa in his work upon the

Diseases of the Eye. He thus expresses himself, (5th edit.) "that which most generally opposes itself to the complete success of the operation for cataract, whatever method is employed, is not the crystalline lens, notwithstanding its density, more or less considerable, but the capsule of the affected lens, and more particularly the anterior convexity of the capsule. It would be very desirable to find an easy and efficacious method which would permit the surgeon, in the various modes of operating for cataract, to separate accurately, at the same time with the opaque crystalline, the entire capsule of the lens from the ciliary zone to which it is attached, as is sometimes accomplished by a happy and unforeseen accident."

It is precisely this last indication which I wish to fulfil by my process. I am well aware that certain partisans of depression aim at the same end; we shall soon see in what manner they endeavoured to attain it, and above all whether they have succeeded: I will afterwards expose my ideas with regard to this matter; but in order that I may be better understood, it is indispensable to recall in a few words, the manner in which the crystalline lens and its membrane are fixed in the eye; and that I may not be accused of partiality or exaggeration in the description, I will copy literally an anatomist who is an honour to the present school, and whose authority no one will question, viz. M. Jules Cloquet, who says,* "from the interval of the ciliary processes, and from the surface even of their anterior extremities, are detached innumerable small rounded filaments, transparent, united in bundles, which I think I was the first to point out, and which are directed towards the circumference of the lens, in order to attach themselves to its membrane, which they thus fix in a solid manner. These filaments expand, some upon the anterior surface of the capsule, the other upon its posterior face, but do not extend more than a line beyond its circumference. It is impossible to see them on account of their extreme tenuity, and their transparency, without having macerated the eye, (opened,) in a solution of gallate of iron; it is then only that their disposition can be studied. They form, as it were, so many little tendons, which keep the capsule and the lens in place. Much more visible in certain animals than in man, those filaments have been improperly regarded as the anterior lamina of the hyaloid membrane, to which they adhere posteriorly alone, at the point where they detach themselves from the ciliary circle. It is these which form the anterior paries of the pretended canal of Petit."

Method of Operating.—The patient having been properly prepared, and the pupil previously dilated by the extract of belladonna or of hyosciamus, he must be laid in a bed placed opposite a window, but so disposed that the light may fall a little obliquely upon the cornea. The head must be elevated by a bolster and two pillows; the arms placed under the bed-clothes will be easily retained by them. An assistant must stand behind the head of the bed, the head-piece of which should be but little raised; he must place one hand behind the neck of the patient, while with the other he raises the upper eyelid; by this means the head and the lid will be permanently fixed. The surgeon seated upon the side of the bed opposite to that of the eye to be operated upon, will find in the position of the patient, a point d'appui, the more convenient because it will be in his power to select it when he pleases. The eye of the patient being turned upwards and inwards, the needle must be held like a writing pen, with the right hand, (if the left eye is to be operated upon, et vice versa;) then the two last fingers resting upon the temple, and the needle directed transversely, so that its convex surface is superior; the surgeon must carry it two lines and a half behind the transparent cornea, and one line below the transverse diameter of the eye; by a quick movement he must then introduce the whole blade of the needle behind the lens, stopping however at the *neck* of the instrument, the advantage of which at this stage of the operation is easily comprehended. All the precautions which I have just indicated must be taken, that the long

* Manual of Anatomy.

ciliary artery may not be wounded. At the moment when the point of the needle touches the sclerotica, the extremity of the handle should be pretty low; but it is necessary to elevate it gradually, as the blade penetrates into the interior of the eye.

Before proceeding to the second stage of the operation, the handle of the needle is to be lightly turned in the fingers, so that the pointed surface from being superior becomes inferior. The needle occupies then the same position behind the lens which it is soon to occupy before that body. In order to accomplish this second stage, the blade must be depressed by elevating the handle; the superior edge of which alone is cutting its whole extent, is to be gradually directed forward, and must be carried gently under the capsule; it will thus embrace all the inferior and half of the exterior ligaments; it is to be raised afterwards by passing it before the lens and its capsule. However transparent this latter may be, it will be always easy with a little attention to recognise whether the needle is before or within it. Let us suppose first the most fortunate case. The operator will cut all the internal ligaments of the capsule with the point of the blade, he will then carry the superior cutting edge against the superior ligaments, and the remaining half of the exterior ones; then the needle being brought behind the pupil, and in a direction somewhat oblique, he will proceed to the third and last stage, viz. the reclination of the lens and its capsule entire. To accomplish this, the lens must be thrown backwards, downwards, and a little outwards, by carrying the handle of the needle upwards and outwards. This last stage of the operation is so easy, that the promptitude with which it is performed sometimes causes surprise. The crystalline must be maintained thus depressed some moments, in order that the vitreous humour may enclose it, and prevent it from rising again; to obtain greater security, the handle may even be gently turned in the fingers, so that the pointed surface may become inferior, and the linear surface be placed above.

It is apparent, that by this means it becomes very easy to bear upon the crystalline with the convex surface of the needle, even when it might not be distinguishable at the bottom of the eye, and there is no occasion to fear wounding the retina and the choroid coat with its point. I will suppose now, that in causing the needle to pass under the crystalline, and bringing it behind the iris, the operator penetrates between the lens and its capsule, instead of endeavouring to recommence this stage of the operation, which would not fail to irritate the iris, it is better to carry the point of the *reclinator* through the capsule, by directing the extremity of the handle strongly towards the temple of the patient. Being seized thus, the crystallized is torn throughout the greatest part of its extent, and is carried away with the crystalline. When the needle is to be retracted from the ocular globe, its linear surface is turned upward, and the extremity of the handle must be gradually raised; on the contrary it must be depressed by degrees, when the pointed surface or face is in that direction. It will be seen, that hitherto in the operative procedure, I have considered merely the first variety of the first species of cataract, viz. that in which the crystalline is hard. I should examine now the case in which it is soft, or that in which it is diffluent; and finally, those in which it is capsular or mixed; but as my method is applicable to all of these cases, I shall say nothing particular concerning them, reserving to myself an occasion to say a word in relation to them, in speaking of the numerous advantages which I attribute to my reclinating needle, (aiguille-reclinateur.)

The advantages of this method are, according to the author, the following:—

1. The operation is easier than by the other methods.
2. It is more effectual.

M. Bergeon afterwards passes in review the action of the needles in the different species of cataract, and finds that the utility of his instrument is principally obvious in soft, liquid, or milky cataracts, capsular or capsulo-lenticular ones, &c. He undertakes afterwards to combat the objections which might be brought against his procedure, the only one which seems to him to have any

foundation is this, that in gliding over the iris, in touching the ciliary bodies in certain points, an internal inflammation of the ocular globe might be produced; but the other methods are not exempt from these reproaches.—*La Lancette Française, Oct.* 1*st*, 1833.

SURGERY.

61. *New Method of Extracting the Stone from the Bladder, by a Perinæal Incision.*—Dr. Mariano Pantaleo, the author of this method, remarks that the lateral operation is the one which has united the suffrages of the greater number of physicians, and that the only valid objection which can be made against it is, that it does not give a ready passage to large calculi. This inconvenience the author proposes to remedy by making a double incision of the prostate gland, but not after the method of MM. Dupuytren and Senn. Thus the left moiety of the incision regards the ascending branch of the ischium, as in the common lithotomy, while the other half is directed obliquely upwards, and to the right side.

According to Dr. Pantaleo, it is the superior portion of the prostate gland which offers the greatest resistance to the dilatation of the neck of the bladder wherever the incision is made low down; hence the most rational method is that by which this obstacle is overcome, and it was by following this principle that Martineau, according to the author, obtained his brilliant success.

The bilateral operation, as proposed by M. Dupuytren, has the advantage of giving passage to very large calculi, but is attended with some inconveniences; thus it exposes us to divide the bulb of the urethra, which is so much developed in old subjects, and particularly in calculous patients; or if we approach the incision too close to the anus, in order to avoid it, we run the greater risk of dividing the intestine. The incision of Reclard avoids the bulb, but it is too near the rectum, and not being parallel to the external incision, gives rise to the danger of an infiltration of urine.

Finally, the two incisions practised laterally by M. Dupuytren, leave the superior portion of the prostate gland untouched, and others do not remove the obstacle which has been noticed to the dilatation of the neck of the bladder.

The author's instrument is a double lithotome caché, the blades of which separate opposite one another, and to the usual extent. He makes an incision in the ordinary manner along the left side of the perinæum, opens the membranous portion of the urethra, and introduces the lithotome along the sound into the bladder. Having estimated the volume of the calculus, the blades of the lithotome are now opened to the proper size, the handle so fixed that the internal incision shall be exactly parallel to the external one, and the instrument is drawn outwards; hence results an inferior incision on the left side of the prostate, and a superior one on the right, or, in other words, the gland is divided by an oblique diameter, running upwards, and from left to right; this, according to the author, gives the most favourably disposed wound for the extraction of a stone; it is very regular, parallel to that of the integuments, and readily dilated.—*Lancet, July* 12*th*, 1834.

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62. *Treatment of Club-foot, by Dividing the Tendo-achillis; a new Operation.* By Dr. Louis Stromeyer.—A division of the tendo-archilles has only been proposed in cases of amputation of the foot, by the method of Chopart, after which operation the foot is apt to be drawn backwards by the muscles on the back of the leg, predominating over those left upon the front part. This operation was received at first but coolly, and as cases suitable for its application were of very rare occurrence, it had fallen into complete neglect, when it was revived by Delpech for the relief of those cases of club-foot, termed *pied équin* where the heel is drawn forcibly backwards. It is based upon the important fact,

that in all cases of rupture of the tendo-achillis, instead of an immediate reunion taking place between the two extremities of the tendon, a sort of pad is found between them, which in time elongates itself to such an extent, that the entire length of the tendon is frequently very much increased, whilst at the same time its original strength is not impaired. The two following very interesting cases reported by Dr. Stromeyer prove that the theory of this practice is borne out by experience.

Observation I.—George Ehlers, æt. 19, a student of the seminary of Hanover, had laboured under a deformity of the left foot, which according to the statement of his parents, had first appeared when he was four years old, and without any manifest cause. He had been subjected at this time to various treatments, which had produced temporary benefit, but in spite of every thing the disease continued to increase, and at last became so bad that the patient was unable to walk a step. From the application of the different machines, &c. employed to keep the foot in a proper position, excoriations, and even ulcerations of some depth were produced, which after a time became complicated with caries of the metatarsal bone of the little toe, that required several years for its cure. In consequence of the pain and distress produced by almost every method of treatment, the parents determined to let nature have her way, and discarded every thing like regular treatment, merely attaching a wooden leg upon which the tuberosity of the ischium rested; with this contrivance the patient made shift to get along. In the month of October, 1830, the patient was brought to the orthopedic establishment of Dr. Stromeyer for the first time, and presented the following appearances. The left foot excessively deformed, the toes being forcibly drawn downwards and inwards; the external margin of the foot corresponded precisely with the axis of the leg, and the whole foot was extended to such a degree by the contraction of the muscles of the calf of the leg, that the margins of the foot formed a straight line with the anterior face of the leg. On the upper portion of the external margin of the foot there existed two callous spots, the remaining of those which had been formed in this position when the patient could walk. The degree of mobility enjoyed by the foot was extremely small, and the whole leg was very much emaciated. By the continued use of the wooden leg the limb had acquired a remarkable deviation from its natural condition; the deviation consisted in a projection outwards of the leg from the knee-joint. The length of the two extremities were nevertheless nearly equal, allowing for the great deformity existing in one of them. The right was large, and the muscles well developed, the superior surface of the right foot, however, was so projecting that the foot seemed to be much shorter than natural, and approached somewhat the same species of deformity with which the other was affected. Yet this peculiar conformation did not interfere with the motions of the foot. This circumstance should be recollected, as it shows that the original cause of club-foot may have its origin in the spinal marrow. The prognosis in a case of such great deformity was of course extremely unfavourable, yet as the patient was resolved to submit to any plan of treatment whatsoever that might be advised, Dr. Stromeyer determined to make an effort to relieve him, and he was the more willing to do this as there still remained some degree of mobility in the joints of the foot. Powerful extension was resorted to, and continued for the space of three months without any amelioration in the position of the foot, except that its sole was brought a little nearer the horizontal line. Excoriations were also produced by the bandages. After being fully convinced of the inutility of this plan, the Doctor determined to perform as a "dernier resource," the section of the tendo-achillis. To this the patient readily consented. On the 28th of February, 1831, the operation was performed in the following manner. The patient was placed upon a table, with his left side presenting to the operator. The knee was firmly fixed by an assistant, and the foot firmly supported, and fixed in such a manner as to cause the tendo-achillis to be put upon the stretch by another. The instrument, a very narrow, sharp-pointed bistoury, was then introduced between

the tendon and the tibia, about two inches above the insertion of the latter, and in such a manner that its back part looked towards the bone, and its cutting edge towards the tendon, the latter was then divided. The object in using a small knife was to make the external wounds as small as possible, in order to prevent the introduction of air into the cavity, and the consequent suppuration and exfoliation of the tendon. This was divided without an opening, except that made by the knife in entering, being made in the skin. The hæmorrhage was little or none. The interval between the two extremities was about three-quarters of an inch in length, but the position of the foot was not materially altered. By extending the foot, the two cut extremities were placed in immediate contact. The external wounds made by the bistoury were covered over with a piece of adhesive plaster, and two long pads placed one on each side of the tendon, and confined by a few turns of the roller, which was afterwards carried over the foot, and so arranged as to keep it in a state of extension. It was not judged necessary to use a splint, the muscles of the leg being in such a state of atrophy that there was no apprehension of a displacement of the extremities of the tendon by their contraction taking place. The limb was placed upon its outer side, and supported in an elevated position by pillows. By the tenth day the two extremities were found to be perfectly united to each other, and the pain and slight degree of swelling that had existed for the first few days after the operation, had entirely disappeared. It was now deemed proper to commence with the extension of the intermediate substance. The foot at this time formed with the leg a very obtuse angle. The degree of extension for the first few days was very moderate, and applied with great caution for fear of breaking up the new adhesions, and moreover to avoid giving the patient unnecessary pain, who complained of pain in the cicatrix whenever it was carried to any extent. In eight weeks from the time when the extending bands were first applied, the foot was found to form with the leg a complete right angle. The Dr. was now enabled to apply a sort of boot, furnished on the outer side with an iron splint, which was interrupted opposite the ankle joint by a hinge. The hinge was furnished with a screw, by which the angle of the foot with the leg might be changed at pleasure; with the aid of this boot, and with a stick the patient was enabled to walk about his room, but the limb weakened by long inaction, soon became fatigued and swollen. From this time forward he continued gradually to improve, though the swelling for which frictions with camphorated spirit was prescribed occasionally would show itself. In two months time this had entirely disappeared; the foot formed with the leg a perfect right angle, its external margin being perfectly horizontal; the muscles of the calf of the leg had acquired considerable size, though still situated higher up than natural; his gait was without any imperfection whatever; in short a complete cure had been effected. The patient was examined eighteen months after the performance of the operation, and it was found that no disposition to a return to its unnatural position had been manifested by the foot, the knee had also regained its natural direction, and the patient walked without a stick. It is obvious that the success met with in this case was dependent upon the division of the tendon; the muscles of the calf having remained almost in the same position during the whole treatment, shows that it was not by an extension of their fibres that the cure was effected.

Observation II.—The second case is that of a M. Blumenthal, æt. 32, whose left foot was the seat of the deformity. He stated that at the age of eighteen months he was attacked with an inflammatory affection, accompanied with convulsions, and that during this illness the deformity had commenced. The deviation increased gradually from this time forwards, but had not until within a few years past prevented his walking about and attending to his business; latterly, however, it had arrived to such a degree, that he was sometimes obliged to confine himself to his bed. Upon examination, the foot seemed to have almost reached the highest grade of deformity. Its outer margin, as well as the toes, were drawn downwards and inwards to such a degree, that in walk-

ing the back of the foot came in contact with the ground, and from the continual pressure which it had necessarily undergone, was covered by a thick and horny collosity. The point of the foot deviated so much from its natural position, that in walking it looked directly backwards, and by coming in contact with the ankle joint of the other foot, kept it in a constant state of irritation. The heel was elevated to some height, and did not touch the ground at all in walking. The muscles of the calf were sufficiently well developed, though situated higher up the leg than natural; the tendo-achillis on the contrary was smaller than natural. Notwithstanding the extreme degree of deformity, the articulations of the foot were moveable, though it is true not to any great extent. The first thing that was done in this case was the removal of the callous from the back of the foot, and from its outer margin; (the callous in some places was half an inch thick.) The foot was then dressed and placed in the extending machine for three weeks, with the design of placing the foot under the axis of the leg, which was in part effected. On the 12th of June, 1832, the tendon was divided as in the first case, with the exception that the knife was introduced three inches instead of two, above the insertion of the tendon, in order that the newly-formed tissue might be as far removed as possible from the spot upon which the extending bands were afterwards to be placed. The dressings here also resembled those made use of in the first case, only it was thought better from the size of the muscles of the calf to place a splint upon the anterior face of the foot, so as to prevent their spontaneous contraction. In a short time after the operation the patient was attacked by cramps in the calf of the leg that had been operated upon, which came on the moment he went to sleep; in this way he was kept awake all night. The next day the bandage was taken off, and the extremities of the tendon brought into contact, and a roller passed up the leg to prevent the contraction of the muscles. Nevertheless they reäppeared more violently than before, and the patient passed another sleepless night. The bandage was taken off, and the splint applied, the foot and lower part of the leg only being enveloped by a roller. From this time the cramps never again appeared. Ten days having elapsed, and the extremities of the tendon being firmly united, the apparatus for extension was applied. In about ten weeks after the performance of the operation, the patient quitted Hanover in the following condition. The foot formed with the leg a complete right angle, and in walking its sole came into uniform contact with the ground. There nevertheless remained some traces of the original deformity. The back of the foot was still very convex, which proceeded from a manifest curvature in the metatarsal bones; and the thenar eminence was also turned inwards. When walking with care the foot was turned outwards, when, however, he walked without paying any attention, or very quickly, the point of the foot still directed itself a little inwards, though without striking against the other foot. The muscles of the calf of the leg were well developed, though situated higher up than in the right. It was also impossible in this case, as in the other, to determine with certainty the length of the substance formed between the divided extremities of the tendo-achillis, although the space made by a division of the tendon was more perceptible than in the first.

There is probably no other case on record, where a deformity of the foot, so extreme in its character, and of such ancient date, has been converted by the efforts of art into a condition so nearly normal. The circumstances which induced the doctor to undertake the treatment of the case should also be recollected; they were—1st. The ankle joints being still slightly moveable; 2d. The muscles of the calf of the leg being still tolerably well-developed; and finally, the foot being covered by a solid dermoid coat, there was not much tendency to excoriation. It yet remains for us to describe the apparatus by means of which this extraordinary cure was effected. It consists of a splint, somewhat wider than the leg, upon which the latter was made to rest. At the point corresponding with the heel, the splint was divided by a mortice cut in its centre into two equal parts, which were made to extend some inches beyond the sole

of the foot. To the bottom of the mortice, and close to the heel, a sort of wooden sole was attached by a moveable articulation, by which means the angle which it formed with the long splint might be either increased or diminished. Two cords were attached to the superior third of the wooden sole, and then carried over two pullies, solidly fixed to the edges of the long splint, upon a line corresponding to the inferior third of the leg. After they had passed round the pullies, they were brought down the edges of the splint until they reached the extremities of the arms of the mortice, where they were attached to a small cylinder, which turned with a crank. By fixing the foot firmly to the wooden sole, and thus turning the cylinders to which were attached the cords, the whole foot might be made to approach a right angle, and be retained in that position as long a time as could be supported by the patient. The degree of force that could be applied with this apparatus, although very considerable, could nevertheless be limited by reversing the action of the cylinder to any extent whatever.—*Gaz. Méd. Sept.* 28*th*, 1833, *from Rust's Mag. Vol. XXIX.*

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63. *Subcutaneous Vascular Nævus.*—W. C. Worthington, Esq. reports in the *Lancet*, (12th July last,) the case of an infant with this disease, situate on the right side of the chest just below the axilla, in size a little exceeding a shilling. The surface of the nævus was rubbed a few times with an ointment of tartar emetic, when it became covered with pustules, which were soon confluent; granulations sprung up, which were occasionally touched with the nitrate of silver; simple adhesive plaster was then applied as a dressing, and a complete cure effected, nothing remaining but a superficial cicatrix.

Mr. C. Hickman, in a former number of the same journal, (for April, 1834,) reported a case of vascular nævus cured by the application of a liniment composed of tartar emetic and olive oil.

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64. *Imperforate Anus existing for Two Months.*—The subject of this case was a female infant who, when two months of age, was in an almost dying condition, taken to M. Caussade. This infant vomited fæcal matters; had hiccup; the pulse was small, contracted; the face livid, and covered with sweat; the voice almost extinct; and the abdomen much distended. She had been placed out to nurse immediately after her birth; her clouts were observed to be wet and slightly soiled, but the nurse never observed any alvine evacuation as in other children. As the little one was, however, in good health, and even grew fat, the nurse continued to suckle her without seeking the cause of the absence of alvine evacuations. On examining the infant, M. C. found that there was no anus, or trace of one. She passed through a capillary opening at the posterior part of the vulva, very near to the hymen, a thick and yellowish fluid, which, when the infant cried and struggled, spouted out as if discharged from the spout of a small syringe. During the straining of the infant, a tumour projected in the perinæum, and in a part of the breech. To relieve the perforation, M. Caussade made an incision three or four lines in depth in the place which the anus ought to have occupied. He found at the bottom of the incision a mass of hard and yellow fæcal matters. It was necessary to break them up, and they were removed by means of a scoop. Several injections were administered, which brought away a large quantity of yellow liquid matter. The wound was kept open by a lint tent. The next day the fæcal matters were readily discharged, all the unpleasant symptoms ceased, and the health of the little patient was restored.—*Gazette des Hôpitaux, March* 29*th*, 1834.

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65. *Successful Treatment of Disunited Fracture by the Tourniquet.*—In a case of disunited fracture of the femur of twenty-one weeks' standing, and which resisted all the ordinary means of procuring union, has been successfully treated in St. Bartholomew's Hospital by the application of tourniquets lightly round the fractured part of the limb. The patient was middle-aged, and in the enjoyment of excellent health.—*Lond. Med. and Surg. Journ. Sept.* 28*th*, 1833.

66. *Luxations of the Humerus.*—M. Gerard recommends the following method for the reduction of luxations of the humerus. He states, that he has employed it successfully in every case, (eight cases,) in which he has resorted to it, of luxation of the humerus downwards, and more or less forwards or backwards. The patient being seated on a chair, an assistant placed on the uninjured side, passes his arm around the neck of the patient, and with his two hands crossed upon the dislocated shoulder, produces counter-extension. The operator placed on the injured side, raises the limb from the body, flexes the forearm on the arm, holds it, or has it held against the chest of the patient, and placing his left forearm under the upper portion of the luxated bone, as near as possible to the axilla, he flexes this forearm by pressing it against the patient, so that the cubital extremity of the luxated humerus is supported upon the side of the operator, who then exerts upon the luxated part a single traction, which suffices to effect reduction by replacing the head of the humerus in the glenoid cavity. It is essential to retain the inferior extremity of the luxated bone, firmly supported against the side, and as near as possible to that of the patient. In ordinary circumstances, a common man need not exert more than one-third of his strength to effect reduction, which is accomplished by a single effort, and without the patient having time to complain.—*Journal Hebdomadaire, II.* 126, 1834.

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67. *New Pad for Trusses.*—MM. Cresson and Sanson have devised a new pad for trusses, which is said to be very superior to the common one. This new pad is formed of gum-elastic, and is made either solid or hollow, in the latter case it is properly distended with air, which may be either permanently confined, or the pad is so constructed that the quantity of air in it may be increased or diminished at will.—*Gaz. Méd. March 15th,* 1834.

MIDWIFERY.

68. *Rupture of the Vagina during Delivery.*—A healthy woman, about thirty years of age, and who had borne one living child, was the subject of this case. The labour had continued about eleven hours, and had been rather difficult and tedious in consequence of an œdematous swelling of the labia, and of the lower extremities. The head had already descended fairly into the cavity of the pelvis, and the pains had become more severe, when on a sudden they ceased entirely; the patient complained of a sharp pain in the right iliac region; vomiting and general coldness succeeded, and the patient died in the course of an hour.

The different parts of the fœtus could be distinctly felt through the abdominal parietes. No outward hæmorrhage occurred.

Dissection.—A small quantity of blood was found in the abdomen; the uterus empty, and contracted upon itself, was inclined somewhat to the right side, and presented in all respects a normal appearance. The fœtus had escaped into the cavity of the abdomen, and its body was enveloped among the intestines, the knees being placed against the abdominal parietes, while the head remained still in the passage, and was, as it were, incarcerated there by the edges of the opening, firmly applied round the neck. The laceration had taken place in the upper part, or vault of the vagina, which was enormously stretched, the child being unusually large. The placenta had descended into the vagina, and was partially protruded through the rent into the abdomen.—*Med. Chirurg. Rev. from Siebold's Journ. der Geburtshulfe.*

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69. *Injections of Cold Water into the Umbilical Cord to Promote the Separation of the Placenta.*—Professor Houl states that this method, first recommended by M. Mojon, will often succeed perfectly if it be used sufficiently early, and

provided the vein does not contain too much blood; for sometimes cases occur in which it is not possible to dislodge the blood which the vein contains. One injection will frequently suffice. If we listen with the stethoscope over the region of the womb, where the placenta is attached, while a quantity of water is injected into the cord, a noise or rhonchus coming as if from a distance is heard; this noise is quite distinct from that of any pulsation. In favourable cases the sound becomes louder and stronger, and in addition to it, other rhonchi of a more sibilant or whistling character becomes audible. Professor H. states, that he never could hear any of these last described sounds in cases in which the placenta remained obstinately attached; they would therefore seem to be connected with the contractions of the uterus. These contractions are necessarily very imperfect, when the placenta remains fixed; and hence perhaps the absence of the sounds in these cases. Professor H. recommends that the injection of the cord be used even when it does not succeed of itself, and when therefore it is necessary to remove the placenta by manual assistance, it may be a serviceable adjunct.

The most frequent cause of failure with the injections alone, is spasmodic contraction of the uterus.—*Med. Chirurg. Rev.* from *Allgemeine Medic. Zeitung.*

CHEMISTRY.

70. *On a New Alkaloid substance called Quinodine discovered in Yellow Bark.* By MM. Henry and A. Delondre.—This substance is white, crystallizable in prismatic needles, in the state of a hydrate. It melts into a mass of a resinous appearance, only at a much higher temperature than that required for the fusion of quinine. It is extremely bitter, especially when dissolved in alcohol or an acid. Alcohol of the sp. gr. of .949, or even .963, holds it in solution, but by the spontaneous evaporation of this liquid it is deposited either in crystals, or at first in a sort of resin, which, when moistened by alcoholic water, changes by degrees, on exposure to the air, into beautiful crystalline needles. Cold sulphuric ether dissolves also a small quantity of it. These needles, collected and dried, effloresce in dry air. They speedily turn the syrup of violets green, and restore to its blue colour turnsole paper reddened by an acid.

They combine perfectly with sulphuric, hydrochloric, nitric and acetic acids to form white pearly salts, very crystallizable like those of quinine and precipitable by soda, &c. The hydrochlorate appears only more needle-like *(aiguillé)* while with quinine it is often in plates like common boric acid. Quinodine at a high temperature is decomposed, diffusing at first an aromatic, then an empyreumatic animalized odour, and a part of the alkaloid is sublimed in the midst of its volatile products.

Its elementary analysis has not yet been determined, but it appears to be rich in azote. It resembles quinine in its form, small degree of volatility, its solubility in alcohol much diluted, and its saline combinations. It differs from this substance by its great tendency to crystallize, and its being less fusible, its being less soluble in sulphuric ether, and by the property which it has in its resinous state of assuming in the air, the form of crystals when moistened with alcoholic water,—an effect which its discoverers have not observed to occur with pure quinine.

Quinodine is found in the yellowish waters which float on quinine and cinchonine after the distillation of the alcoholic tinctures and the preparation of quinine. It is accompanied by a yellow substance supposed to be an acid.

The discoverers promise hereafter to give the processes for procuring *quinodine* pure.—*Edinburgh Med. and Surg. Journal*, from *Journal de Pharmacie, November*, 1833.

71. *New Ether.*—M. Pelouze lately discovered a new ether, which he calls "Hydrocyanic," while examining the effects produced by heat on a mixture of the sulpho-vinate of barytes with cyanuret of potassium. This ether is liquid, colourless, possesses a very pungent alliaceous odour, and acts energetically on the animal economy. It is inflammable; boils at 82° under atmospheric pressure; its density is 0.787 at a temperature of 15°; it is but little soluble in water, but is perfectly so in alcohol or sulphuric ether. It does not precipitate the nitrate of silver, and in this respect resembles hydrochloric ether, which does not decompose the salt until it has been destroyed by the action of heat. M. Pelouze regards the hydrocyanic ether as composed of equal volumes of olefiant gas, and of the vapour of prussic acid condensed one-half. The idea of searching for this ether, was suggested to M. Pelouze by an observation of M. Leige, who discovered a peculiar substance possessing acid properties, and formed by the action of barium on the sulpho-vinate of barytes; its composition was such as to lead to the conclusion, that it was a kind of alcohol, in which the oxygen was replaced by sulphur.—*Gazette des Hôpitaux.*

MISCELLANEOUS.

72. *Beaumont's Experiments.*—Our countryman, Dr. Beaumont's work, entitled "Experiments and Observations on the Gastric Juice, and on the Physiology of Digestion," was presented to the French Academy of Sciences at their meeting of the 10th of March last; and on motion of M. Arago, a committee was appointed to examine these experiments in order to suggest new ones if those already made were not sufficient. M. Roux stated, that a case similar to that of Dr. Beaumont's had occurred at Paris. The subject of it was a woman, and experiments relative to digestion had been made upon her, which were supposed to have hastened her death.—*Gaz. Méd. March 15th*, 1834.

73. *Examination of the Trials made with Homœopathic Medicine in the Military Hospital of St. Petersburgh.* By Dr. Seidlitz.—The celebrated Berlin surgeon, Dieffenbach, has very truly said, that this new doctrine "offers a vast field to the most absurd reveries and antiquated superstitions, which some shallow men always prefer to whatever is clear and palpable;" and all who have perused their oracular book or institute, the "Organon of Medical Science" as it is modestly called by the author, must have arrived at the same conclusion. There is an utter destitution of all rational proofs of the opinions, or rather dogmas, there announced. Proceeding from a few appearances, at best of very exceptionable accuracy, Hahnemann leaps at once to the assertion—that no medicine ever cures a disease, unless it is capable of exciting in a healthy system symptoms altogether analogous to those which it is employed to relieve. Almost all chronic diseases, we are informed, are caused by ill-cured itch. There is no proof given of this—only we are told that it is so! Then another wondrous discovery is, that the ten-millionth part of a grain of charcoal is a very active agent in some diseases; and that many medicines are extraordinarily exalted in efficacy by the number of times the vial which contains them in solution is shaken! Yet, such is the hungry credulity of mankind, that all these good things are swallowed, nay, even digested, if we may judge from the products, we mean of the brain, which, with all suitable consistency, are inversely proportionate to the ingesta. Born and nursed in Germany, that fatherland of wild phantasies, this curious doctrine has been diffused over Switzerland and Italy—has entered France, and reached Lyons, and even Paris. Like every novelty, it blinds and infatuates many for a time. When we hear of old-established practitioners, not to allude to numerous young men, who cannot possibly be influenced in their choice by any selfish or mercenary motives, forsaking their accustomed ways, and fondly embracing the most ridiculous vagaries as the only truth, can we

explain such an occurrence in any other way than by thinking of many other absurdities which have been for a time tolerated, admired, adopted, applauded, and then ridiculed, scoffed at and despised.

Well has it been said by one of the great German poets, Goethe.—"For even when all ideas are awanting, a word or two will supply their place; with words you may fight most famously; with words you may build a system of philosophy; if a man but hears words he will believe them." To give a specimen of the practical excellencies of homœopathism, we cannot do better than allude to the course which has been pursued by the Russian government towards it. A Saxon physician, Dr. Hermann, the great apostle of the system in Russia, was invested by the Grand Duke Michael with full powers to display, in a course of clinical experiments, its superiority over the common practice and theory of the day.

One of the wards of the Hôpital de Tuttschin, which contained a number of soldiers affected with fever and dysentery, was allotted to his special management during a space of two months.

The following table exhibits the results:—

	Patients.	Cured.	Died.	Rem.
Common method -	457 -	364 -	— -	93
Homœopathic do. -	128 -	65 -	5 -	58

Notwithstanding the results of this experiment were so decisive against the new doctrine, the ministers of the Russian government some time afterwards summoned Dr. H. to Petersburg, gave him authority to select his own hospital, and to make any arrangements he thought fit. The wards were fresh painted, and every hygienic precaution faithfully executed. Even the kitchen was placed entirely under his control and superintendence; and in order to prevent the possibility of any interference a sentinel was placed before the door, and none permitted to enter during the occasional absence of Dr. Hermann. His first request respecting the patients was a very moderate and modest one, viz. that none should be sent to his hospital who laboured under ulcers, syphilis, dropsy, phthisis, &c. and that he should have the selection of all his cases!! Even under these most fortunate circumstances, the results were most unfavourable to the new practice; the proportion of deaths to recoveries was much higher than in ordinary practice, and the duration of the treatment was always protracted and tedious. Here is a specimen of the reports. The case is pronounced one of peripneumonia.

History.—Patient ill for seven days; severe frontal cephalalgia; pains in the eyes; tongue clean but dry; thirst; bitter taste in the mouth; anorexia; bowels open; dry cough during the night, and this is accompanied with pains in one side, which are increased on pressure; pains felt in the arms; skin cool; pulse full and not frequent.

An infinitesimal dose of arnica ordered. Next day but little change; but after this the symptoms gradually subsided, and the patient was discharged cured on the nineteenth day after admission.

A well-marked example of peripneumonia indeed!! A slight catarrh with an equally slight disturbance of the stomach. Forty-seven cases are detailed by Dr. Seidlitz, many of which are still less entitled to the epithets bestowed upon them.—*Rev. Méd. Feb.* 1834, from *Hecker's Annals, November*, 1833.

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74. *Death of St. John Long.*—This notorious individual, the most successful quack of the day, in one sense of the word at least, died lately in London. It appears that he fell a victim to the very disease, (pulmonary consumption,) for the cure of which he pretended to possess an infallible cure. A remarkable commentary this upon the blind credulity of his numerous dupes, among whom were several persons of rank, and in other respects of intelligence.

AMERICAN INTELLIGENCE.

Account of the Cholera in New York during the present year. By C. A. Lee, M. D.—[Communicated in a letter to the Editor.]—Dear Sir, I embrace a leisure moment to give you a short account of the cholera, since its reäppearance in our city. About the 1st of July bowel complaints began to prevail very extensively, especially among the poor residing in crowded and ill-ventilated apartments, and occasionally a case occurred with the same symptoms as attended the cholera in 1832. Indeed, sporadic cases of this disease have from time to time appeared here since its prevalence in that fatal year, several of which occurred during the last winter and spring. On the 14th of July, a few days after its appearance in Canada, I attended a patient, who had been employed in rafting and been much exposed to wet and fatigue; an intemperate man, and living in a filthy habitation. I found him with violent cramps, cold, shrivelled skin, rice-water dejections, and almost imperceptible pulse, and the other symptoms characterizing this stage of cholera. He recovered.

On the 9th of August the board of health began to report, and reported fourteen deaths as having taken place since the 23d of July. From that period they continued their daily reports until the 16th instant, including fifty-three days, the total number of deaths being 636; 168 being hospital patients, 331 city, and 69 at Bellevue. The whole number reported by the city inspector, however, during the same period, is 734; and if to this we add the number for the last week, 93, we have 827 deaths to September 20th, averaging about 13 deaths per day. This, for a population like ours, is certainly very light; much more so, indeed, than in most of the places north and west where it prevailed the past season. Compared with 1832, it has not prevailed to one-quarter the extent it did then; nevertheless, it is worthy of remark that for the last seven weeks the mortality by *all* diseases has been more than half as great as in any seven weeks of 1832. In that year, during the greatest prevalence of cholera, the number of deaths by all diseases was 4,158; during the past seven weeks 2,376. The whole number of deaths in 1832 was 10,359; in 1833, 5,746. This apparent anomaly may perhaps be explained when we consider the large number of deaths from other analogous diseases of the gastro-intestinal membrane, such as dysentery, cholera infantum, diarrhœa, enteritis, and common cholera morbus. Of these, cholera infantum furnishes much the largest proportion.

Another fact worthy of note perhaps, is the exemption in a very great degree of those sections of the city which suffered severely in 1832. This has not been uniformly the case, but sufficiently so to excite public remark. For example, in the 1st, 3d, 5th, and 15th wards there have been more cases of cholera than in 1832. In Warren street, 3d ward, there have been from fifteen to twenty deaths; in 1832, only three or four. In Anthony street, 5th ward, on the west side of Broadway, it is said there have been at least one hundred cases; in 1832, not more than twenty in the same district. The parts of the 15th ward which were mostly the seats of disease in 1832, have this year been nearly exempt. In 1832 the number of cases in the 6th ward was seven hundred, this year about seventy-five. The 12th ward, which suffered severely in 1832, has nearly escaped the present season, and so of other districts of the city. Some of the most low, filthy, and confined parts of the city have entirely escaped, while other portions of an opposite character have suffered. There have been several remarkable instances in which whole or nearly whole families have been carried off, and that without the aid of any known

local causes. In such cases I have generally been able to trace it to the effects of fear, grief, anxiety, watching, or fatigue. Even the common people, with few exceptions, consider the disease non-contagious; accordingly, there has not been that panic which prevailed during the former period, and which drove a large portion of our citizens to the country; nor a want of nurses and attendants upon the sick, (not to say *doctors*,) which rendered the establishment of hospitals absolutely necessary. The doctrine of contagion, I am confident, has gained few converts since the reäppearance of cholera in New York the present season.

On a former occasion, I communicated to you briefly my views as to the pathology of the disease, and additional experience and observation serve to confirm me in the belief of their correctness. Indeed, after the numerous facts presented by Broussais, Cruveilhier, Andral, Hope, Jackson, and other able pathologists, there seems to be scarcely any thing wanting to place the pathology of this disease on an immoveable footing. The results of fifteen autopsical examinations of cholera subjects fully confirms me in the belief of the doctrine that the disease consists primarily in an exalted action of the capillary and secretory vessels of the gastro-intestinal membrane, resulting from a high abnormal state of irritation. The views presented on this subject by Dr. Jackson in this Journal, are luminous, incontrovertible, and above all praise. They have received, and will continue to receive, the assent of most candid physicians who diligently employ the same means of eliciting truth that he has done.

I have noticed, in a late work on Cholera, by Dr. Casanova, an attempt to controvert this doctrine on the assumed ground that "the sinking of the circulation in cholera patients, and the weak action of the heart, precedes the cholera evacuations." Now, in the first place, admitting this to be a fact, which I do not, it does not by any means follow that the subsequent phenomena are not the result of a vital reäction developed on the gastro-enteritic surface, causing choleric discharges of an active or inflammatory character. If the experiments of Majendie, Orfila, and other physiologists are to be depended upon, such, indeed, is the effect of all poisons taken into the circulation, and in consonance with this general law of the elimination of morbid substances from the circulation, such also should we expect to occur in throwing off the virus of cholera. But I apprehend that few physicians have an opportunity of examining cholera patients previous to any evacuations, as a case cannot be known to be cholera till some of its characteristic symptoms appear. Of a large majority of those, however, whose history is ascertained, it is found that simple diarrhœa, with or without pain, constitutes almost the only symptom, while the strength remains for some time unimpaired and the circulation active.

Those cases form an exception to this remark, where the earliest symptom is vomiting, brought on by improper aliment, or the excessive use of alcoholic stimulants. These, however, are comparatively rare. On this point medical testimony is almost unanimous. Dr. Kirk, of Greenock, in his able pamphlet, remarks, "there is still a question among practical men, if a state of excitement always precedes the attack? I think it does. In all cases I have had it in my power to observe from the first it has done so." Other authorities to the same point might be quoted, but I forbear. I recollect, indeed, one singular instance, where a medical man from the country, after having gone through the wards of the Greenwich Cholera Hospital, in which were about sixty patients in all stages of the disease, fell insensible to the floor, and was shortly afterwards attacked with the disease. But in this case the individual was labouring under excessive fear, and his tongue was completely coated with a white fur, indicating a high state of irritation of the stomach and bowels.

The theory of Dr. C. that the disease consists principally in spasm, particularly of the heart, is entirely unsupported by facts or reasoning. It is indeed less satisfactory than most of the pathological doctrines against which he contends, and the treatment which he proposes, viz. injection of tobacco smoke, is no less ineffectual than his conclusions are unsound.

With respect to the treatment of cholera, though there has been by no means so great a degree of uniformity as could be desired, yet a majority of the practitioners of this city have pursued a course if not dictated by the pathology already hinted at, yet certainly in consonance with it. Accordingly, stimulant cathartics have been very generally proscribed, while ice has been extensively used internally, and revulsives to the surface. A few, bold, dashing physicians, have persisted in the employment of drastic purgatives, and some valuable lives, no doubt, have been sacrificed to this incendiary treatment. It is a singular, but lamentable fact, that some physicians will persist in a fatal mode of treating a disease; their minds are so blinded by prejudice, or biassed by preconceived theory. Let such read the following remark of the illustrious Sydenham, contained in his treatise of the cholera morbus of the year 1669. "I have found by much consideration, and by manifested experience, that if I should endeavour to expel these sharp humours that are the fuel of the disease, I should do just as he that endeavours to quench fire with oil, *seeing the operation of the most gentle purge would but cause greater disturbance and raise new tumults,*" &c.

Notwithstanding the doctrine of the humoral pathology, which influenced his practice, should have led Sydenham to have expelled these humours by cathartic medicines, yet observation and "manifest experience" taught him that this treatment was hazardous, and therefore he abandoned it. The physiological practice then is not only the offspring of a correct pathology, but of varied observation and experience in different countries and ages. Let it therefore undergo the ordeal of fair experiment before it be condemned.

In the commencement of the epidemic of 1832, I treated many cases of cholerine, or premonitory diarrhœa, by moderate doses of rhubarb and magnesia, or castor oil; but I found that though this course would sometimes succeed, yet they frequently terminated in severe attacks of cholera, several of which proved fatal. The same occurred in the practice of others, so that those who have seen and treated the disease to any extent, have abandoned cathartic remedies almost entirely from the treatment. On the reäppearance of cholera the present season, I pursued a different course, and with far more satisfactory results. After the employment of a Cayenne pepper pediluvium, I directed the patient to take a table-spoonful of the following mixture, every five, three or four hours, according to circumstances:—℞. Cretæ ppt. ʒijss.; Pulv. g. acaciæ, Sacch. alb. āā. ʒj.; Sal. sulph. morph. ʒj.; Carb. potass. gr. xv.; Aquæ menth. sat. ℥iv. M.

This, with farinaceous diet, mucilaginous drinks, and in severe cases confinement to bed, with general or local bleeding, has succeeded *in every instance* in arresting the disease. Occasionally I have added a small quantity of the tincture of kino, galls, or catechu, and sometimes I have thought with advantage. A powerful adjuvant in such cases, is a mustard cataplasm to the epigastrium. Where the diarrhœa is urgent, or attended with nausea or vomiting, this is indispensable. If the patient can be got into a warm perspiration, evidencing full reäction, he is generally safe. By this plan I succeeded in 1832, in treating nearly one hundred children at the Orphan's Asylum with invariable success, though two who were taken the day before I commenced attendance, and were treated differently, died. To check the vomiting, mustard and other external revulsives, with ice, iced Seltzer or soda water internally are by far the most effectual remedies. I have found few, if any cases this season, but what yielded to this plan.

In the collapsed state, a large proportion have died under every mode of treatment. Most of those cases reported as cures from collapse, were doubtless labouring under partial collapse only, a debility of the circulation, with more or less coldness of the surface. Such have occasionally recovered under directly opposite modes of treatment.

Violent frictions, with mercurial and stimulant preparations, I have entirely abandoned, believing that the alarm and agitation they occasion to the patient, more than counterbalances any advantages attending their use. It is but very rarely that the patient survives a sufficient length of time to produce mercurial

action in the system; and where he does he is very apt to be cut off by cerebral congestion, or the mercurial fever which follows. Besides, if the patient recovers, the injurious consequences resulting from saturating the system with such a quantity of mercury, are of a most serious nature, and absolutely render life a burden. I therefore do not wonder that *M. Velpeau*, after having extensively employed mercurial frictions in his hospital in Paris abandoned their use, for other less objectionable means; and I fully agree with the editor of the *Archives Générales*, in his No. for April, 1832, when he says that "mercurial frictions have been followed by favourable results in cases apparently desperate; but these are too few, and too vague, to justify much confidence." Thus much would I remark in relation to this remedy; having undesignedly contributed in bringing it into notice in 1832.

In collapse, then, I have employed with the greatest success powerful revulsives, such as mustard, Cayenne pepper, flies dissolved in strong acetic acid, boiling water and common epispastics, especially to the epigastrium; while I administered internally, if the stomach would retain it, chicken or mutton broth containing a very little salt; and to relieve the thirst, nausea, or sense of burning, ice and iced water in small quantities. I have repeatedly witnessed the best effects from the administration of animal broths in these cases, and I believe they are more likely to be retained on the stomach than any thing else. They are certainly better adapted to fulfil the important indications of relieving the irritation, while at the same time they sustain the strength, than any other articles within my knowledge. Stimulants, internally, will almost invariably excite vomiting, and so far from rousing the patient, or giving him any real strength, only sink him the lower.

In general, I would remark, that the disease has been more mild and manageable then in 1832; the cases have been more protracted, and not so suddenly fatal. The intemperate class, as usual, have suffered most; though a few temperate and highly respectable individuals have fallen victims. At present, a few deaths are occurring daily, and I should think it probable, that sporadic cases will continue to occur for some time.

New York, Sept. 21*st*, 1834.

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Twelve Cases of Poisoning by Arsenic in the Same Family. By W. G. Ramsay, M. D. of Charleston, S. C.—On Sunday, August 4th, I was requested by Dr. George Haig to visit with him a family composed of twelve coloured persons in Smith's Lane, who had sent for him in haste, as they were all seized with vomiting immediately after dinner, which created much alarm. The account we received was, that having dined at 2 o'clock, all of them eat of fowl soup; they had taken very little of the soup, when they were seized with nausea, followed with vomiting; two of the children complained that the soup tasted bitter, and refused to eat it. Dr. George Haig saw them about an hour after they were taken sick, and suspecting from the aggravated symptoms that they were poisoned, and not being able to attend personally to so many, he sent for me, and requested my assistance. Dr. T. Y. Simmons was also sent for by the family, who kindly rendered his aid.

I will proceed to give the notes on the cases separately.

Case I. Rose Pensel, coloured girl, aged nineteen years, sanguineous temperament, was seized with vomiting, retching, and burning sensations in the stomach immediately after eating, which was followed by convulsions; dilatation of the pupils; cool skin; pulse 120, small, quick, and irregular; when the convulsions subsided, she complained of excruciating pains in the head and stomach. ℞. An emetic of sulph. zinc. assisted with large draughts of warm water, which vomited her freely; white of eggs beat up; sinapisms to legs; twelve ounces of blood from the epigastrium by cups; iced gum water, wineglassful every fifteen minutes; ice applied to head. 8 o'clock, P. M. Has vomited but twice since last visit; skin not so cool; convulsions abated; expressed much relief of pain in stomach from cups; much determination to head;

stupor. ℞. Continue gum water and cold applications to head; warm fomentations to epigastric region.

August 5th, 6 o'clock, A. M.—Slept well during the night; skin warm; complained of much head-ache; delirious; pupils dilated; intolerance of light, eyes suffused; pulse small and quick, 120. ℞. Six ounces of blood from back of neck by cups; cold to head, and warm fomentations as far as knees by means of blankets, wrung out of hot water; Ol. ricini, ℥ss. 1 o'clock, P. M. Has been quiet; does not complain of so much pain; skin comfortable; brain symptoms greaty relieved; no operation from bowels. ℞. Stimulating enema; continue applications. 8 o'clock, P. M. Drowsy, sleeps much, with muttering; no operation from bowels. ℞. Small doses of sul. magnesia; continue applications.

6th, 8 o'clock, A. M. Did not sleep well; intellect confused; complains of dull pain in head; salts operated, stools black and offensive; pulse small and irregular, 112. ℞. Twelve leeches to neck; blister between shoulders; continue sul. magnesia in small doses. 2 o'clock, P. M. Much better; bowels well evacuated; intellect clear; pulse regular, 100. 8 o'clock, P. M. Continues better; skin moist and comfortable; no dilatation of the pupils; pulse 96; blister has drawn well; ordered to be kept quiet.

7th. Has had a good night's rest; feels much better; complains of no pain; convalescent. The symptoms of this individual's case were the most aggravated, on account of her having eaten more of the soup than any of the others; the acute symptoms of the brain were much alleviated by the warm fomentations applied to the inferior extremities as far as the knees. I recollect a remark made to me by Dr. S. Jackson, that in these acute affections of the brain, that the fomentations acted much more beneficially as a revulsive, than the practice of blisters to the extremities in such cases, as the cutaneous irritation of the blisters being easily transmitted to the brain, which is already the affected organ, was injurious. I am happy to say I have seen the truth of this remark fully verified.

Case II. Margaret, sister to Rose, aged seventeen years, was seized immediately after eating, with vomiting and burning pain in stomach, faintness, skin cool, pulse quick and small, no convulsions, intellect clear; her symptoms, which were not as violent as her sister's, were relieved by an emetic of zinc. Twelve ounces of blood from epigastrium by cups; warm fomentations to epigastrium; iced gum water frequently during the night.

5th, 7 o'clock, A. M. Has had a little sleep during the night; does not complain of any pain in stomach, but of much head-ache; intellect clear; bowels torpid; skin comfortable, and of the natural temperature; pulse 80. ℞. Ol. ricini, ℥ss. 6 o'clock, P. M. Feels much better; head relieved; bowels well evacuated; stools black and offensive; pulse natural, 76.

6th. Convalescent; swelling of the face, especially of the eyelids; joints of fingers much swollen.

Case III. Maria, aged six years, sister to the above, was attacked in like manner after eating a small portion of the soup; an emetic of zinc, with warm water, quickly relieved her.

5th. Much better; no operation from bowels. ℞. Ol. ricini.

6th. Convalescent.

Case IV. Margaret Wilson, aunt to the above, aged fifty years, plethoric, was severely attacked after eating, with vomiting and purging, burning pain in stomach, constriction across the chest, great arterial excitement, pulse slow, full, and irregular, difficult and painful micturition, stools black and very offensive, burning pain at the anus. ℞. Warm water, which evacuated the stomach well; six ounces of blood from epigastrium by cups, twelve ounces from arm; warm fomentations to epigastrium; iced gum water frequently.

5th, 7 o'clock, A. M. Had a little sleep; feels much relieved; purging and vomiting arrested; complains of no pain in stomach; pulse regular and soft; experiences much difficulty and pain in passing her urine; free discharge of

blood from uterus during the night, which she says is a return of her menstrual discharge, although she has not had a return for five years; the discharge resembled the menstrual blood in appearances; complains of vertigo and headache. ℞. Pul. rhei. and cal. mag. fomentations to epigastrium and abdomen.

6th. Rested well all night; feels much better; burning when passing urine not so great; discharge continues, but in small quantities; head relieved; medicine operated well.

7th. Convalescent; slight discharge from uterus; swelling of face and joints. This case differs from the others in many of the symptoms, and points out clearly the different effects of the same substance on different constitutions; this woman being very plethoric, the arterial system was most disturbed; the pulse, which in the other cases was quick and small, was in this case full and slow; the bowels were much affected; in the others they were torpid. The urinary organs and the uterus were also affected. Christison says urinary symptoms are seldom present, unless the lower bowels are likewise strangely irritated.

Case V. Louisa Richardson, negro woman, aged forty years, delicate constitution, was seized about an hour after eating with vomiting and violent retching, faintness, burning pain in stomach, pulse small and quick; she was relieved by an emetic of zinc, with warm water drank freely; warm fomentations to epigastrium; iced gum water.

5th. Rested badly; complains of no pain, but great weakness; pulse very small and quick; had three stools during the night, which were black and very offensive. ℞. Ol. ricini, ℥ss.

6th. Feels much better; oil operated well; pulse more natural.

7th. Convalescent, attended with troublesome palpitation.

Case VI. Ann, coloured girl, daughter to the above woman, aged eighteen years, was seized immediately after eating, with vomiting and retching, faintness, burning pain in stomach, pulse small and quick, skin cool, much headache. ℞. Twelve ounces of blood from epigastrium; emetic of zinc; iced gum water; warm fomentations to epigastrium.

5th. Feels better; symptoms relieved; bowels torpid. ℞. Ol. ricini.

6th. Convalescent, attended with swelling similar to the other cases, and also with sore throat.

Case VII. Mary, sister to the above, coloured, aged fifteen years, was attacked immediately after eating, in a similar manner to her sister, and was relieved by the same treatment; her convalescence was attended with the usual swelling.

Case VIII. Agnes, sister to the above, aged twelve years, remarked, after having taken a little of the soup, that it had a bitter taste, and refused to eat of it; she quickly vomited the little she had eaten, and was relieved without any serious symptoms.

Case IX. James, brother to the above, aged eight years, refused also to eat the soup, on account of its having a bitter taste; he was but slightly affected.

Case X. Maria, coloured, aged five years, was attacked with vomiting and retching immediately after eating a little of the soup; she was relieved by an emetic and warm water drunk freely.

Case XI. Mary Hamilton, coloured, aged thirty-five years, delicate constitution, also eat of the soup, and was violently attacked immediately after with vomiting and painful retching, burning pain in stomach, pulse weak, quick, and irregular; no purging. ℞. Six ounces of blood from epigastrium; emetic; iced gum water; fomentations to epigastrium.

5th. Relieved; bowels torpid. ℞. Ol. ricini. This woman was confined a few days before, and was in delicate health.

Case XII. Ann, her daughter, aged four years, was also attacked with retching and vomiting; was relieved by an emetic; warm fomentations to epigastrium.

The symptoms of poisoning by arsenic were evident and well-marked in

these cases. In reviewing the cases in detail, we will find that violent irritation of the alimentary canal, especially of the stomach, with faintness and prostration, were the most prominent symptoms; in the case of Margaret Wilson, not only the whole alimentary canal was affected, but also the uterus and urinary passage; in this case the poison acted as a powerful emenagogue, causing a free discharge after a cessation of five years. "In many instances," says Bachmann,* "the urinary passages are affected, the patient being harassed with frequent, painful and difficult micturition, swelling of the penis, and pain in the region of the bladder, or if a female, with pain of the vagina and excoriation of the labia." It has been a matter of dispute, whether any effect from the poison during the act of swallowing is perceived by the patient; there is no doubt, says the same author, "that in the way in which arsenic is generally given, with a criminal intent, namely, mixed with articles of food, it seldom makes any impression at all upon the senses during the act of swallowing." In the cases of Agnes and James, both of them complained of a bitter taste when eating, so much so, that they eat very little of the soup. The secondary symptoms in these cases were well marked. I have often seen the same swelling of the face and joints, which I have noticed in all the cases, follow the continued use of Fowler's solution. As regards the period of attack, the symptoms came on in most of the cases immediately after eating. "In some instances the sickness and faintness, particularly when the poison was taken in solution, have begun a few minutes after it was swallowed."†

Treatment.—The stomach was freely evacuated by emetics of zinc and copious draughts of warm water. "The use of the stomach pump," says Christison, "although it has been applied to cases of poisoning by arsenic, does not seem to possess any advantage whatever over the natural efforts of nature, if seconded by copious draughts of liquids." Not believing in any antidote for arsenic, these were treated as cases of acute gastritis with signal benefit. The iced gum water sweetened, and given frequently, was very beneficial in calming the irritability of the stomach, and allaying the inordinate thirst which existed. It is not necessary for me to say any thing as regards the beneficial effects of local depletion in gastritis, as the advantages arising from it are daily experienced.

Chemical Analysis.—A portion of matter ejected from the stomach was carried to Messrs. Caullier and Harper, distinguished and highly deserving chemists of this city, who, after a minute examination detected arsenic by two different tests; first, reduction by which the metallic ring was beautifully exhibited; the second was Scheele's green.

It appeared on evidence at the trial, that a negro man, living on the same premises with these persons, and had had a quarrel with them a few days previous; on Sunday he went into the kitchen, and not seeing any persons near him, he deposited arsenic in the soup, a large quantity of which was found in his possession; he was found guilty and executed.

Charleston, July 24th, 1834.

Description of a New Form of the Stomach Pump. By P. B. Goddard, M. D. of Philadelphia.—This pump consists of two parts, one of which I shall call the valve box, the other is an ordinary syringe, of good construction, to which the valve box is screwed when in use.

The valve box is a cylinder of metal, containing ovoidal or egg-shaped cavities, equally distant from the centre of the cylinder; at this point a pipe enters, which, when screwed on to the syringe, opens a communication between its cavity and these two cavities in the valve box. Near each end of the cylinder, a short and slightly conical tube projects laterally, to which a flexible tube is to be fastened, and which causes a communication between the flexible tube and the cavity in the valve box. Each of these cavities contain a bullet accu-

* Bachmann on Poison. † Christison.

rately turned, so as to fit the orifices of the tubes, entering into it, and acting as a valve. It will be seen by reference to Fig. 1, (which represents a section of the valve box,) that if the valve box be held vertically, and the syringe screwed on to it, the bullet in the upper cavity will fall upon the orifice of communication between it and the body of the syringe, whilst the bullet in the lower cavity, will in like manner lie upon the orifice of the tube leading externally. If the lower tube be now immersed in water, and the piston of the syringe be drawn out, it will be evident that the body of the syringe will be filled with water from the lower tube. If now the piston be pressed home, the water will pass out of the upper tube; the bullet in the lower cavity preventing its escape there, just as the bullet in the upper one prevented the entrance of air before. It will then always pump water, or any other fluid, from the lower tube to the upper.

If the position of the valve box be now reversed, and the end which was above be placed below, the bullets will fall by their own gravity into the opposite ends of the cavities, and the instrument will act as it did before, viz. pumping from the lower orifice to the upper, although the relative position of the tubes has been reversed.

To use this instrument, the valve box must be held in nearly a vertical direction. A long flexible tube being passed into the stomach, is attached to one of the short conical tubes, say the upper, and a short tube leading to a basin is then fastened to the lower one. The basin being filled with warm water, and the syringe put in action, the water will pass into the stomach and dilute the poison. When enough has passed in, the syringe is to be turned in the hand, so as to bring the tube down which was before above, without taking off the flexible tubes, or changing them in any way, and the syringe again put into action. The water will be pumped out of the stomach bringing the poison along with it.

The following are the chief advantages of this instrument. It is perfectly simple in its construction, and not liable to get out of order.

The directions for its use are easily understood, and as easily remembered.

After the flexible tubes are once adjusted, no alteration is required until the operation is finished.

When the instrument is once put in action, gallons of water may in a few minutes be passed through the stomach, thus washing away every trace of poison, and saving many a valuable life.

Explanation of the Figures.

Fig. 1.

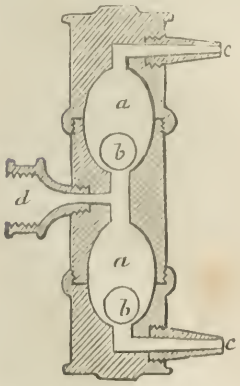

Fig. 1, Section of the valve box.
a a, Cavities for the bullets.
b b, Bullet valves.
c c, Tubes, to which are attached the flexible pipes.
d, Female screw by which the valve box is attached to the syringe.

Fig. 2.

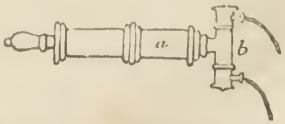

Fig. 2, Miniature view of the entire instrument.
a, The syringe.
b, The valve box.

Journal of the Franklin Institute, April, 1834.

Introduction of Air into the Veins. By Benjamin F. Wing, M. D. (Read before the Boston Society for Medical Improvement.)—I have selected for the subject of my communication this evening, the introduction of air into the veins. My attention was first drawn particularly to the subject in consequence of having witnessed the death of an individual, which was supposed to have been caused by this accident while she was undergoing a surgical operation. Believing that as good an understanding of it might be obtained by interrogating nature through a series of experiments, as by studying the different authors who have written upon it, I undertook the following experiments.

Exp. I.—The external jugular vein of a full-sized rabbit was laid bare for some distance, and a branch of it selected for the insertion of a tube, that the current of blood through the principal vein should not be interrupted. By means of a small syringe the air was forced into the vein, and globule after globule was seen to enter the jugular and pass along with the blood, producing in the vicinity of the heart a slight gurgling noise. This organ immediately testified its presence by violent action for the space of about one minute, when it suddenly ceased to act. The animal made a few convulsive struggles, uttered a cry, gasped at intervals of some seconds, and expired.

An examination of the body was made twenty minutes after death. The muscles contracted under the stimulus of the knife. The brain presented no uncommon appearance. Its blood-vessels were not engorged, nor was any air discovered in them. The lungs were of their ordinary appearance, filling the cavity of the thorax, but immediately collapsing on the admission of air. On laying open the pericardium, the coronary vessels of the heart were perceived much injected. The right auricle and ventricle, together with the venæ cavæ, were distended with air mingled with blood in a semi-coagulated state. In the left auricle was found a little blood with a small portion of air. The corresponding ventricle was entirely empty.

The six succeeding experiments were tried upon other rabbits, varying the quantity of air from a volume equal to one to that of three fluid drachms. The results being similar to the one described, it appears unnecessary to state the particulars attending each case. I shall therefore pass on to the relation of some that were tried upon larger animals, where the quantity of air in proportion to their size could be more easily regulated.

Exp. VIII.—Air was gradually thrown into the jugular vein of a small-sized sheep, in a manner similar to that described in Experiment I., until the quantity equalled the volume of a fluid ounce. The time occupied did not vary far from ten minutes. The gurgling noise noticed in the first experiment, slight difficulty of respiration, together with gentle struggles indicative of suffering, followed each movement of the piston forcing the air into the vein. After these symptoms subsided, the vein was secured and the animal released. It immediately manifested a disposition to eat, sought its fellows, and mingled with the flock.

Exp. IX.—In this experiment double the quantity of air was used. The symptoms differed only in intensity. They speedily subsided, and the sheep, after being released, could not be distinguished by any peculiarity of manner.

Exp. X.—A volume of air equal to three fluid ounces was injected with such rapidity, that the globules were seen constantly passing through the jugular vein towards the heart. In this case much disturbance occurred. The animal evinced much suffering, the struggles approached convulsions, and the respiration became very difficult. After an interval of fifteen or twenty minutes of doubt as to the result, the symptoms gradually subsided. The sheep, when loosed from its bonds, could scarce support itself, but at length it walked away.

On the following day the three sheep subjected to experiments presented no peculiarity of manner. One was slaughtered in the usual way. No air was seen to escape with the blood, nor was any coagulum found in the heart. The lungs were of their ordinary appearance. In fact, I could not discover any

difference between those that were subjected to the experiments and those that were not.

Exp. XI.—In this instance the precise quantity of air could not be determined. It amounted at least to a volume equal to six fluid ounces. It was injected as expeditiously as possible, and its effects were immediately apparent. The heart palpitated violently a short time, then suddenly ceased to convey any sound to the ear; convulsions and gaspings were soon followed by a suspension of all signs of animation. The jugular vein that was dissected of its integuments became enormously distended, and the contents apparently stagnant. Under the conviction that the animal had become a victim to the experiment, the jugular was freely opened, and blood mingled with air was freely discharged. After a considerable quantity was evacuated, the sheep again respired, and the heart resumed its action. It was finally killed by opening the carotid artery. In this case some frothy blood was found in the right side of the heart, and the muscles presented an unusual redness, in consequence of a retention of blood in the capillary vessels.

The result of the eighth, ninth, and tenth experiments, show that air when admitted into the veins, although producing derangement in the functions, yet does not necessarily cause immediate death; but that the symptoms will gradually subside, and the organs resume their ordinary functions, provided the quantity is not too great in proportion to the size of the animal. But when this is carried beyond a certain point, the seven first experiments show as clearly that death will ensue. The last experiment may be considered doubtful in its effects: till, until the opening of the jugular, the symptoms were as strongly marked as in the cases where death was undoubtedly caused by the air.

By reference to these experiments it will be seen, as would naturally be inferred, that the first evidence of the presence of air is disturbance in the heart, increasing until its action is entirely suspended,—not by a gradual diminution of its power, rendering the pulsations weaker and weaker, but suddenly stopped in its high tone of action. Difficult respiration succeeds the tumultuous action of the heart, and increases to gasping at lengthened intervals, until this function also ceases. The muscular system is, to all appearance, at first only excited to increased action by the pain endured, nor does this action differ from that which is testified by the animal when an incision is made preparatory to the experiment until the animal approaches the agonies of death, when it becomes universally spasmodic.

It is necessary for the explanation of these vital phenomena, to suppose that the air arrives at each organ before any aberration of function is manifested—or cannot they be more satisfactorily accounted for, by referring the first impression to the heart, where we know the air arrives, and the other effects to the functional dependence or sympathetic relation that exists between the heart, lungs, and brain? Can we not suppose that the air impairs the power of circulation, first by distending the heart with its own volume, and secondly by causing an imperfect closure of the valves, and thus permitting a reflux of blood at each contraction of the ventricle, which causes in its turn an increased disturbance, until it goes beyond the power of reäction to overcome?

I am aware the subject deserves a more varied and extensive course of experiments; but as circumstances do not permit me to continue my researches at present, I must beg leave to offer you these first fruits of my labour.—*Boston Med. and Surg. Journ. May 14th*, 1834.

Luxation of Dentatus on Third Vertebra of the Neck.—The following interesting example of this is related by Dr. A. J. Spencer, of Ticonderoga, in our cotemporary the *Boston Med. Surg. Journ.* Vol. X. No. 11.

E. D., aged 50, a man of hale constitution and robust, in making an effort to scale a board fence, was suddenly precipitated backwards to the ground; striking first upon the superior and anterior portion of the head, which luxated the den-

tatus anteriorly on the third cervical vertebra. He was at length discovered, and taken in, (as the patient said,) after he had lain nearly an hour, in a condition perfectly bereft of voluntary motion; but being present I did not even suspect that the power of sensation was also gone, until the patient, (whose speech remained almost or quite perfect, and who was uncommonly loquacious at that time,) said, did he not know to the contrary, he should think he had no body. His flesh was then punctured, and sometimes deeply—even from the feet to the neck; but the patient gave no evidence of feeling, and when interrogated, answered that he felt nothing; "and," added he, "I never was more perfectly free from pain in my life," but he remarked that he could not live, and accordingly sent for his family, twelve miles distant, and arranged all his various concerns in perfectly a sane manner.

The head was thrown back in such a position as to forbid his seeing his body. The pulse were much more sluggish than natural. Respiration and speech but slightly affected, but were gradually failing; but he could articulate distinctly until within a few minutes before his death. All the senses of the head remained quite perfect to the last. He died forty-eight hours after the fall.

Repeated attempts were made to reduce the dislocation, but the transverse processes had become so interlocked that every effort proved abortive. There was, undoubtedly, in this case, a perfect compression of the spinal marrow, which prevented the egress of nervous influence from the brain, while the pneumogastric nerve remained unembarrassed.

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Case of Puberty and Pregnancy in a Girl of Ten Years of Age.—The following remarkable instance of this is related by Dr. D. Rowlett, of Kentucky, in our cotemporary, the *Transylvania Journal of Medicine* for October, 1834.

"Sally Deweese, daughter of John Deweese, was born in Butler county, Kentucky, on the 7th of April, 1824. She was of the ordinary size, but her hips and breasts began to grow rapidly in a few weeks after she was born, and at twelve months of age she began to menstruate, and her hips and breasts had become so large as to be the objects of common remark; and as she took no pains to conceal her condition, her menstruating so young, became a fact of public notoriety, which continued regular till some time in the year 1833, when she became pregnant, and on the 20th day of April, 1834, she was delivered of a healthy female child, weighing seven and three-fourth pounds. Thus, at the age of ten years and thirteen days, she became the mother of a child of ordinary size; which, however, refused to suck her, and has been so far raised by the bottle. It is as healthy as is usual for children to be when raised from the bottle, and at the time of taking these notes it weighed eight and three-fourth pounds, and its mother weighed one hundred pounds. She was four feet seven inches high and had the countenance of a girl not exceeding her in years, but is as intelligent as girls generally are at her age.

"She was the fifteenth child her mother had given birth to, and was born when her mother was forty-five years of age. There had been no previous case of early puberty, or premature old age in either the family of the father or mother.

"Her father lived in Butler county until she was two years old, and then removed to the place on which he now lives, in Hickman county, one mile south of Mayfield's Creek, and ten miles east of the Mississippi river, in latitude 36° 59′ N.; but I presume that latitude nor atmosphere has had any influence in this truly, (to me,) astonishing case. I think it is an over-match for the case of the Swiss girl spoken of by Haller."

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Ointment to Allay the Irritation of Hæmorrhoidal Tumours.—The following ointment is recommended by Dr. Geddings in our esteemed cotemporary, the *North American Archives of Medical and Surgical Sciences*, No. 1, as affording great relief to the irritation of hæmorrhoidal tumours:—℞. Pulv. carb. plumbi. ℥ss.; sulph. morph. gr. xv.; ung. stramon. ℥j.; ol. olivar. q. s. Ft. ung. part. applicand.

Powdered opium to the amount of a drachm may be substituted for the morphia, and if the dry white lead is not at hand, that which is ground in oil for the use of painters may be advantageously substituted. Sometimes a drachm of powdered galls may be added.

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Contribution to the History of Vaccination. By the Editor.—The following fact, illustrative of the value of the Jennerian discovery, seems worth recording. A granddaughter of Mrs. M.'s was attacked in April, 1833, with small-pox, which ran its course and terminated favourably. About six weeks afterwards, viz. on the 1st of June, Mrs. M.'s daughter and grandson, (residing in the same house with the first patient,) the former aged thirty-five, the latter eighteen, were attacked with head-ache and fever, followed on the third day by an eruption which presented the ordinary features of varioloid, and ran the usual course of that disease. The eruptive fever in the grandson was very mild, but three pocks appeared on his face, and proportionally few on his body. On the tenth day he had sufficiently recovered to go abroad. The daughter had severe head-ache and high eruptive fever; had forty-three pocks on her face, and a proportional number on the rest of her person.

When children, the *grandson* had been *vaccinated*, and the *daughter inoculated*. The latter had the small-pox at that time, (as the mother informed me,) pretty severely, had several pocks; and subsequently she had had chicken-pox.

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Bill of Mortality of Philadelphia for the year 1833. With remarks, by G. Emerson, M. D.—The Philadelphia Bill of Mortality for the year 1833, compared with that of the previous year, shows a diminution in the deaths of no less than 2,259. Even when allowance is made for the mortality from the epidemic cholera of 1832, the amount from general diseases in 1833 falls short 1311.

There is a diminution in the mortality from every particular disease specified as contributing largely to the general mortality, with the exception of small-pox and varioloid, the deaths from which have increased within the past year.

The rate of diminution is particularly striking under the heads of Fever, Bowel Complaints, Inflammations and Measles, as will be evident from the following comparative statement:—

	Year 1833.			1832.
Deaths from Fevers,				
viz. Of all designations	360			768
Puerperal	32	8		
Eruptive	4	307		315
Scarlet	61	97		
				453
	263			263
Diminished mortality in the last year				190

The deaths from bowel complaints with the periods of life when they took place, stand as follows:—

	Under 1 year.	1 to 2	2 to 5	5 to 20	Children.	Adults.	Totals.
Diarrhœa	25	11	6	4	46	41	87
Dysentery	4	4	3	4	15	29	44
Cholera morbus and infantum	132	59	6	0	197	9	206
	161	74	15	8	258	79	337

Bowel complaints in	1831		522
do.	do.	1832 (exclusive of epidemic cholera)	689
do.	do.	1833	337

The number of deaths from the phlegmasia in the two last years are also strongly contrasted. The deaths from the respective inflammations were as follows:—

	Year 1833.			1832.	
Lungs	166			225	
Chest	17			19	
Heart	2			4	
Windpipe	3			0	
Total in the cavity of the chest		188			248
Stomach	48			41	
Bowels	135			125	
Liver	18			21	
Kidneys	2			1	
Bladder	1			1	
Total in the cavity of the abdomen		204			189
Brain 72					
Spine 2		74			102
Various	7			49	
		473			588
					473
Diminution in 1833					115

	Year 1833.			1832.
Dropsy	80			115
do. in the head	170			187
do. in the breast	52			62
	302			364

The mortality from consumption and the other most fatal diseases compared with those of the preceding year stand thus:—

	Year 1833.			1832.
Consumption	650			681
Convulsions	266			342
Small-pox	156			37
Varioloid	12			6
Measles	1			118
Scarlet fever	61			307
Croup	95			110
Bronchitis	37			97
Apoplexy	55			78
Hooping-cough	53			58
Births.	1833			1832
Males	3,840			3,834
Females	3,802			3,419
	7,642			7,253
Deaths	4,440			6,699
Difference between the births and deaths	3,202			554

STATEMENT OF DEATHS,

With the Diseases and Ages, in the City and Liberties of Philadelphia, from the 1st of January, 1833, to the 1st of January, 1834.

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 year.	From 1 to 2.	From 2 to 5.	From 5 to 10.	From 10 to 15.	From 15 to 20.	From 20 to 30.	From 30 to 40	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	From 100 to 110.	Total.
Abscess	16	5	4	1	0	0	3	0	2	0	1	2	7	2	4	0	0	0	0	21
Apoplexy	34	21	2	1	2	1	0	0	0	0	3	8	12	7	8	11	3	0	0	55
Aneurism	4	1	0	0	0	0	0	0	0	0	2	2	0	1	0	0	0	0	0	5
Asphyxia	5	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Asthma	3	5	1	0	0	0	0	0	0	1	0	1	3	2	0	1	0	0	0	8
Atrophy	12	6	0	0	0	0	0	0	0	0	2	3	5	4	4	0	0	0	0	18
Bronchitis	23	14	15	11	17	6	1	2	0	0	2	1	2	2	3	0	1	0	0	37
Burns	14	16	11	12	1	7	9	3	2	1	5	1	1	0	0	0	0	0	0	30
Consumption	342	308	54	50	19	12	18	7	13	35	186	157	97	48	46	9	2	1	0	650
Convulsions	147	119	130	96	154	32	28	9	1	2	13	11	8	4	1	2	1	0	0	266
Croup	53	42	50	41	38	22	27	4	0	0	1	1	1	0	0	1	0	0	0	95
Cancer	5	26	1	3	0	0	3	1	0	0	1	7	8	6	3	1	1	0	0	31
Catarrh	14	12	13	11	16	7	1	0	0	0	0	0	1	0	0	1	0	0	0	26
Congestion	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
of the Lungs	4	3	2	3	4	0	0	1	0	0	1	1	0	0	0	0	0	0	0	7
Brain	10	12	6	11	5	2	5	4	1	0	1	1	0	1	2	0	0	0	0	22
Concussion of the Spinal Marrow	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Brain	2	1	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3
Compression of the Brain	1	1	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2
Contusion	2	1	0	1	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3
Colic	7	1	2	0	2	0	0	0	0	0	3	1	0	0	2	0	0	0	0	8
Child-Bed	0	6	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0	0	6
Caries	3	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	3
Casualties	16	5	3	2	0	2	0	0	2	1	6	4	3	1	0	2	0	0	0	21
Cachexia	2	6	1	2	2	1	0	0	0	0	1	1	0	1	1	0	1	0	0	8
Cephalia	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Cholera Infantum	97	100	97	100	132	59	6	0	0	0	0	0	0	0	0	0	0	0	0	197
Morbus	3	6	0	0	0	0	0	0	0	0	0	1	2	3	2	1	0	0	0	9
Dropsy	42	38	7	4	1	0	3	2	2	3	7	13	10	21	11	4	3	0	0	80
in the Head	87	83	87	83	60	51	37	18	2	2	0	0	0	0	0	0	0	0	0	170
Breast	29	23	4	6	2	1	3	0	2	2	3	8	7	9	3	8	4	0	0	52
Debility	100	89	76	69	135	6	2	2	0	2	3	4	11	5	4	8	8	1	0	189

(Table Continued.)

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 year.	From 1 to 2.	From 2 to 5.	From 5 to 10.	From 10 to 15.	From 15 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	From 100 to 110.	Total.
Dysentery	25	19	8	7	4	4	3	2	2	0	6	5	2	8	3	4	1	0	0	44
Drowned	53	2	15	1	0	1	3	2	8	2	11	25	2	0	0	1	0	0	0	55
Decay	2	4	1	0	1	0	0	0	0	0	1	1	1	0	1	1	0	0	0	6
Dyspepsia	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Dyspnœa	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Diarrhœa	45	42	21	25	25	11	6	2	1	1	6	8	5	6	5	7	3	1	0	87
Drinking Cold Water	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Drunkenness	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Disease of Brain	13	5	9	2	4	3	3	0	1	0	1	3	1	2	0	0	0	0	0	18
Heart	11	13	2	2	0	0	0	1	0	3	2	7	2	2	5	2	0	0	0	24
Hip	1	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2
Throat	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Chest	2	2	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	4
Liver	1	3	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	4
Stomach	3	1	0	0	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	4
Spine	4	3	2	2	1	1	1	1	0	0	1	1	0	1	0	0	0	0	0	7
Bowels	4	1	2	1	3	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5
Windpipe	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Nerves	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Eyes	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Uterus	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Glands	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Neck	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Enlargement of the Heart	2	2	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	4
Liver	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Erysipelas	9	8	3	5	6	0	0	0	2	0	3	0	2	0	1	1	2	0	0	17
Eruptions	4	4	4	4	7	1	0	0	0	0	0	0	0	0	0	1	0	0	0	8
Epilepsy	9	6	3	1	2	0	0	0	2	0	4	3	2	1	0	1	0	0	0	15
Effusion on the Brain	3	2	2	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0	0	5
Lungs	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	3
Excess of Heat	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Fever	26	20	11	6	5	3	3	4	1	1	9	5	6	1	4	3	1	0	0	46
Typhus	47	37	5	9	0	0	1	3	5	5	24	21	13	6	4	1	1	0	0	84

Fever, Scarlet	30	31	30	31	2	15	24	17	1	2	0	0	0	0	2	0	0	0	0	0	61
Bilious	25	15	6	3	1	0	1	0	4	3	14	6	6	2	2	1	0	0	0	0	40
Catarrhal	22	15	21	15	23	8	4	1	0	0	0	0	1	0	0	0	0	0	0	0	37
Remittent	21	19	12	6	2	2	7	2	1	4	3	5	4	4	1	2	2	2	0	0	40
Intermittent	3	4	3	1	2	0	2	0	0	0	0	1	0	0	1	1	0	0	0	0	7
Puerperal	0	32	0	0	0	0	0	0	0	0	19	13	0	0	0	0	0	0	0	0	32
Eruptive	2	2	0	2	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	4
Hectic	3	2	1	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	0	5
Continued	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	2
Putrid	0	2	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Fracture	6	0	1	0	0	0	1	0	0	0	0	1	1	0	2	1	0	0	0	0	6
Found Dead	2	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Fungous Hæmatodes	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Gout	1	2	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
Hæmorrhage	14	12	4	2	5	0	0	0	0	1	1	4	5	3	4	2	1	0	0	0	26
Hydrophobia	2	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Hernia	1	3	1	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	4
Hypertrophy of the Heart	1	2	0	1	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3
Hypochondriasis	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Inflammation	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
of the Lungs	97	69	55	35	48	18	18	4	0	2	15	10	13	19	5	12	2	0	0	0	166
Bowels	66	69	35	28	28	8	11	7	3	6	23	16	9	7	8	6	2	0	1	0	135
Brain	43	29	22	14	10	9	9	4	2	2	11	8	7	5	2	3	0	0	0	0	72
Stomach	20	28	4	12	6	6	0	2	1	1	7	7	6	5	6	1	0	0	0	0	48
Liver	10	8	1	0	1	0	0	0	0	0	2	3	4	6	1	1	0	0	0	0	18
Chest	10	7	9	6	7	5	1	1	1	0	0	1	0	0	0	1	0	0	0	0	17
Throat	1	2	0	2	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
Heart	1	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
Kidneys	2	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Spine	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2
Bladder	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Ear	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Wind-pipe	1	2	0	1	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3
Uterine Veins	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Intemperance	10	8	0	0	0	0	0	0	0	0	2	9	6	1	0	0	0	0	0	0	18
Introsusception	2	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Insanity	2	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
Inanition	1	3	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	4
Irritation of the Brain	1	3	0	1	0	1	0	0	0	0	0	2	0	1	0	0	0	0	0	0	4

(Table Continued.)

DISEASES.	Males.	Females.	Boys.	Girls.	Under 1 year.	From 1 to 2.	From 2 to 5.	From 5 to 10.	From 10 to 15.	From 15 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	From 100 to 110.	Total.
Irritation of the Bowels	1	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Injury of the Perinæum	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Spine	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Jaundice	6	7	3	5	6	0	1	1	0	0	2	1	0	0	0	1	1	0	0	13
Laudanum to excess	7	9	2	2	1	1	0	0	1	1	8	3	0	0	1	0	0	0	0	16
Liver Complaint	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Marasmus	41	49	41	49	57	23	9	0	1	0	0	0	0	0	0	0	0	0	0	90
Mania	0	4	0	1	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	4
Puerperal	0	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
a Potu	103	20	0	0	0	0	0	0	0	0	27	51	35	6	4	0	0	0	0	123
Mortification	9	11	2	3	0	1	2	2	0	0	2	3	3	0	0	5	1	1	0	20
Malformation	5	3	5	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Murdered	3	2	0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	0	5
Measles	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Mumps	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Necrosis	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Old Age	16	45	0	0	0	0	0	0	0	0	0	0	0	0	5	17	26	10	3	61
Ossification of the Heart	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Aorta	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Phlegmasia Dolens	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Palsy	18	22	1	2	1	0	0	1	0	1	1	5	3	5	11	7	5	0	0	40
Pleurisy	4	4	0	1	0	0	0	0	1	0	1	0	0	3	2	1	0	0	0	8
Poisoned	2	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Perished from Exposure	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Polypus of the Nose	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Rheumatism	3	6	1	1	0	0	0	1	1	0	0	1	4	0	1	0	1	0	0	9
Rupture of Blood-vessel	2	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3
Heart	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Suffocation	3	4	1	4	5	0	0	0	0	0	0	1	1	0	0	0	0	0	0	7
Sudden	12	11	2	5	7	0	0	0	0	0	1	3	3	3	1	3	1	1	0	23
Scrofula	3	9	3	4	1	1	1	2	1	1	2	1	2	0	0	0	0	0	0	12
Syphilis	4	3	2	1	2	0	0	0	0	1	2	1	1	0	0	0	0	0	0	7

Suicide	12	6	1	0	0	0	0	0	0	1	8	8	1	0	0	0	0	0	18
Scalding	1	2	1	2	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
Still-born	186	126	186	126	312	0	0	0	0	0	0	0	0	0	0	0	0	0	312
Small-Pox	90	66	56	52	31	15	37	14	4	7	29	13	5	1	0	0	0	0	156
Scirrhus	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
of the Rectum	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Uterus	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Stomach	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Liver	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Bowels	0	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	4
Stricture of the Rectum	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1
Œsophagus	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Stroke of the Sun	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Spina Bifida	0	1	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Severe treatment	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Teething	3	6	3	6	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
Thrush	5	4	5	4	8	1	0	0	0	0	0	0	0	0	0	0	0	0	9
Tympanitis	2	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	3
Tumour of the Brain	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Unknown	49	36	27	24	43	2	3	1	0	2	9	12	8	2	2	1	0	0	85
Ulcers	2	4	1	3	3	1	0	0	0	0	1	1	0	0	0	0	0	0	6
Ulceration of the Bowels	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	2
Stomach	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Windpipe	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Bladder	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Mouth	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Kidney	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Varioloid	8	4	4	4	5	1	1	0	1	0	4	0	0	0	0	0	0	0	12
Vomiting	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Whooping-Cough	26	27	26	27	28	10	12	3	0	0	0	0	0	0	0	0	0	0	53
Worms	2	5	2	5	0	2	2	1	2	0	0	0	0	0	0	0	0	0	7
Wounds	6	0	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0	6
	2412	2028	1261	1084	1337	375	321	131	78	103	531	534	362	243	185	141	79	17	3 4440

Of the above there were males of 20 years and upwards, 1,151; under 20 years, 1,261; females of 20 years and upwards, 944; under 20 years, 1,084.

There were 406 returns received at the Health Office, of persons who died in the Alms-House of the City and Districts during the year; 478 people of colour are included in the total number of deaths.

Agreeable to returns made at the Health Office and collected from 157 Practitioners of Midwifery, there have been born in the City and Liberties, from the 1st of January, 1833, to the 1st of January, 1834, 3,840 male, and 3,802 female children, making the total number of births 7,643, leaving a difference between the births and deaths of 3,202.

Deaths in each Month of the above period.

	Adults.	Children.	Total.
January	203	192	395
February	152	168	320
March	180	186	366
April	175	148	323
May	178	179	357
June	141	209	350
July	224	362	586
August	162	240	402
September	167	180	347
October	199	161	360
November	166	149	315
December	152	167	319
	2099	2341	4440

By order of the Board of Health,

WM. A. MARTIN, *Clerk.*

Health Office, Philadelphia, January 1st, 1834.

Salivation Arrested by Emesis.—Dr. Ezra Read, of Cincinnati, has communicated to our cotemporary, the *Western Medical Gazette,* (August, 1834,) five cases of salivation promptly arrested by emesis. The emetic employed in three of the cases was ipecacuanha.

Paxton's Anatomy.—The second Volume of the Introduction to the Study of Human Anatomy, by James Paxton, with additions by Winslow Lewis, Jr. M. D. has lately been issued from the press of Messrs. Allen and Ticknor, of Boston. This is a very useful elementary work; the text is concise and perspicuous, and is illustrated by numerous, and for the most part well-executed wood cuts. The manner in which this work has been "got up" is highly creditable to the publishers, and worthy of all praise.

University of Pennsylvania.—We are happy to announce the appointment of William P. Dewees, M. D. to the chair of Obstetrics and Diseases of Women and Children in the University of Pennsylvania in the place of Thomas C. James, M. D. resigned.

QUARTERLY

MEDICAL ADVERTISER.

IN consequence of the extended circulation of the AMERICAN JOURNAL OF THE MEDICAL SCIENCES, the Proprietors intend, in compliance with the wishes of many of their Friends, to affix to each No. a Sheet of Advertisements. All Booksellers, Medical Gentlemen, and others desirous of taking advantage of this mode of announcement, will please address their Advertisements to CAREY, LEA & BLANCHARD, Philadelphia, by the 10th day of the month preceding that of the publication of the Journal, viz. on 10th July, 10th October, 10th January, and 10th April.

For one page - - - - - - - -	Six dollars.
Half a page or less - - - - - -	Three dollars.

Philadelphia, January 20, 1830.

MEDICAL COLLEGE OF SOUTH CAROLINA,

QUEEN STREET,

Under the Superintendence of the Medical Society of South Carolina.

The Lectures in this Institution will Commence as usual on the first Monday of November next. The different chairs will be occupied by the following Gentlemen.

B. B. STROBEL, M. D. *Professor of Anatomy.*
WILLIAM HUME, M. D. *Professor of Surgery.*
B. B. SIMONS, M. D. *Professor of Operative Surgery.*
THOMAS Y. SIMONS, M. D. *Professor of Theory and Practice of Medicine.*
HENRY ALEXANDER, M. D. *Professor of Institutes of Medicine.*
ANDREW HASELL, M. D. *Professor of Materia Medica.*
CHARLES DAVIS, M. D. *Professor of Chemistry.*
FRANCIS Y. PORCHER, M. D. *Professor of Obstetrics and Diseases of Women and Children.*
ELIAS HORRY DEAS, M. D. *Demonstrator of Anatomy.*

The *Marine Hospital* and the *Hospital* connected with the *Alms-house* of this city, are under the Direction of the Faculty of this College. Clinical Lectures will be delivered by two of the Professors, which the Students will be permitted to attend free of charge.

THOMAS Y. SIMONS, M. D. *Dean of the Faculty.*
B. B. STROBEL, M. D. *Secretary.*

Charleston, July 30th, 1834.

PHILADELPHIA ASSOCIATION

FOR

MEDICAL INSTRUCTION.

JOSEPH PARRISH, M. D. *Practice of Medicine.*
CHARLES D. MEIGS, M. D. *Midwifery.*
FRANKLIN BACHE, M. D. *Chemistry.*
JOHN RHEA BARTON, M. D. *Surgery.*
GEORGE B. WOOD, M. D. *Materia Medica.*
J. RANDOLPH, M. D. *Surgery.*
SAMUEL GEORGE MORTON, M. D. *Pathological Anatomy.*
WILLIAM RUSH, M. D. *Institutes of Medicine.*
JOSEPH PANCOAST, M. D. *Anatomy.*

During the past season, a union has taken place between the Philadelphia Association for Medical Instruction and the Philadelphia School of Medicine, under the above-mentioned title.

Lectures will be delivered in the summer season by the Members of the Association, on the subjects respectively attached to their names. The courses will commence early in April, and continue till the first of November, with a recess during the month of August.

Examinations will be conducted during the winter, upon the different branches of medicine, commencing in November, and continuing until March.

Students attending the winter course of Examinations will have access to the Lectures on Materia Medica and Chemistry delivered in the College of Pharmacy, upon the payment of a matriculating fee to that Institution.

The terms and other particulars may be learned by application to the Secretary, Dr. Wood, at his residence, S. W. corner of Sixth and Arch streets.

LECTURES ON MINOR SURGERY

AND

MATERIA MEDICA.

A COURSE of LECTURES on MINOR SURGERY, exhibiting all the Minor Surgical Operations, with demonstrations of the Surgical Anatomy of the parts in which they are performed, &c. will be delivered on Tuesday, Thursday, and Saturday evenings, at 7 o'clock.

BY THOMAS D. MUTTER, M. D.

A COURSE of LECTURES on MATERIA MEDICA, illustrated by Plates, Drawings and Specimens, will be delivered on Monday, Wednesday, and Friday evenings, at 8 o'clock.

BY PAUL B. GODDARD, M. D.

Courses to commence the first of November, and continue until March. Tickets for the whole course, $10, to be obtained at Dr. Goddard's office, south of the University.